EXTENSION COURSES

THE GEORGE BROWN COLLEGE
OF APPLIED ARTS AND TECHNOLOGY
P.O. BOX 1015, STATION B
TORONTO 2B, ONTARIO

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EXTENSION CLASSES

1970-71

The George Brown College of Applied Arts and Technology

21 NASSAU STREET
TORONTO, 2B. ONTARIO

GENERAL INFORMATION

EVENING CLASSES will be offered in the subjects listed on the following pages from October 5, 1970 to March 19, 1971. The first term begins on Monday, October 5, 1970 and ends December 11, 1970. The second term begins on Monday, January 11, 1971 and ends March 19, 1971, for most courses.
Unless otherwise stated, courses will be offered one evening per week for 20 weeks. Each session is 3 hours in length for a total of 60 hours (instruction and examination).

REGISTRATION

In person at the George Brown College of Applied Arts and Technology on Monday, September 28, Tuesday, September 29, and Wednesday, September 30 between the hours of 4:00 p.m. and 9:00 p.m. at each of the campuses.

Campus K — 21 Nassau Street
Tel: 362-3971

Campus C — 507 College Street
Tel: 925-5961

Campus CL — 37 Dartnell Avenue
Tel: 362-3971

Campus B — 33 Bloor Street East
Tel: 924-4415

Campus T — 51 Ternulay Street
Tel: 362-3971

All course descriptions indicate the Campus that will conduct the course.
Special courses may be introduced if necessary.

FEES

Unless stated otherwise in course description, the following fee structure is applicable:

Courses of 30 hours duration — $15.00
Courses of 60 hours duration — $26.00
Courses of 90 hours duration — $40.00
Courses of 120 hours duration — $50.00

This amount includes the $5.00 registration fee and in some cases includes the cost of laboratory fees. In certain courses a minimum laboratory fee will be assessed.

IDENTIFICATION

Your receipt is your admit-to-lecture identification and must be shown to the instructor at the beginning of the course and whenever requested. No receipt is an indication of non-registration.

REFUNDS

The Registrar must be notified in writing of a student's withdrawal. Forms are available at the office for this purpose.
Refunds will be made only if requested before the third scheduled lecture.
In computing the amount of the refund, a charge will be made of $2.00 per scheduled session calculated on a pro-rata basis up to the date of application for a refund regardless of whether or not the student attended classes. If a course is cancelled, full refund will be made.
REQUESTS FOR REFUNDS MUST BE ACCOMPANIED BY THE OFFICIAL RECEIPT (white copy). In the case of a course failing to materialize due to insufficient enrollment, a full refund and notification will be forwarded to the applicant.

PARKING

Parking is not available on college property. Some public parking is available at nearby lots.

PREREQUISITES

Candidates should be advised that many of the following courses require considerable related experience. The prerequisites for any given course are the minimum requirements.

MINIMUM ENROLLMENTS

The college reserves the right to cancel any class for which attendance has dropped below the required minimum and to suspend or combine during the session any classes in which attendance falls below the minimum.
Although it is proposed to adhere to the program as outlined in the calendar, courses and hours of instruction are subject to revision without prior notice.

TEXTBOOKS AND SUPPLIES

Textbooks and supplies for all Extension Courses may be purchased at the individual Campus Bookstores.

CERTIFICATION

Applicants should inquire at the time of Registration concerning Certification and Accreditation. Courses with X appended to Course No. indicate Non-Certificate or Special Interest Courses.

SPECIAL COURSES

Special courses will be offered from time to time at the request of individuals or organizations if an adequate enrolment is assured.

COUNSELLING

As a community service George Brown College offers general counselling and information at the Bloor Campus, 33 Bloor Street East. Experienced counsellors are on duty each week day from 9.00 a.m. to 8.00 p.m. to advise on educational and other related matters. Appointments are necessary after 4.00 p.m. There is no charge.

EXTENSION CALENDAR — 1970-71

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— B — ACC 901 ... 28
— I — ACC 100 ... 27
— II — ACC 101 ... 27
— Cost — ACC 902 ... 28
— (in an) E.D.P. Environment — ACC 903 ... 28
— Hotel Front Office Accounting Procedures — FADM 211 ... 47
— Machines — see Business Machines ... 25
Advanced Practical Cookery — see Cookery ... 48
Advertising — BC 901 ... 28
— Basic Principles, Sales and Merchandising — BC 900 ... 27
Air Conditioning
— Control — AIR 902 ... 18
— Design, Part I — AIR 900 ... 18
— Design, Part II — AIR 901 ... 18
— Warm Air Heating and Air Conditioning (Domestic) — HT 900 ... 18
Algebra (Boolean) — see Mathematics ... 12
Alternating Current Circuits — EL 906 ... 30
Aluminum Welding — see Welding ... 36
Appliance(s)
— Gas Appliances — AP 900 ... 19
— Servicing, Part I (Electrical Fundamentals and Small Appliances) — AP 903 ... 20
— Servicing, Part II (Domestic Refrigeration) — AP 904 ... 20
— Servicing, Part III (Laundry Equipment) — AP 905 ... 20
Applied Physics — see Physics ... 12
Appreciation of Wines, Spirits and Liqueurs — F 907 ... 49
Arbitration, Inspections and Reports — AS 900 ... 11
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Audio Visual Theory and Techniques — AS 901 ... 13
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— Engineering and Equipment — BK 139 ... 46
— Management — BK 140 ... 46
— Small Bakery Management — BK 900 ... 45
Baking
— Industry — BK 901 ... 46
— Practical — BK 10-1A ... 45
— Practical Baking and Desserts — F 901 ... 48
Basic Instrumentation Electronics — INST 900 ... 35
Basic Photography — see Photography ... 14
Basic Practical Cookery — see Cookery ... 47
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— Perfect-Adhesive Binding and Gathering — GR 225 ... 52
— Programmed Cutter and Folder — GR 125 ... 52
— Sewing and Stitching — GR 126 ... 52
Black and White Reproduction — GR 105 & GR 107 ... 51
Blow Moulding — PL 906 ... 43
Blueprint Reading
— Building Trades — DR 10/20/131 ... 20
— Machine Trades — DR 130 ... 38
— Welding Trade — DR 147 ... 38
Boat Building and Yacht Design — MAR 907 X ... 55
Boat Building (Small), Repairs and Maintenance — MAR 906 X ... 54
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Bread Craft
— Advanced — BK 23 ... 45
— Basic — BK 15 ... 45
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— Estimating — see Surveying ... 22
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— Servicing, Part II — BES 901 ... 43
Business Machines

— Accounting Machines — BM 900 25
— Comptometer — BM 901 25
— Comptometer B — BM 902 25
— Dictaphone (Stenographic) — BM 905 26
— Duplicating Machines — BM 903 25
— Printing and Rotary Calculator — BM 904 25
Business Management
— (Applied Arts) — EC 902 15
— I — BUS 900 27
— II — BUS 901 27
Butchery — see Meat Cutting 47

Cabinet Making — CAR 900 16
Cable Television — see Television 33
Cake
— Craft (Advanced) — BK 25 45
— Craft (Basic) — BK 17 45
— Decoration and Design I — BK 10-1C 45
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Calculator — see Business Machines 25
Candy and Chocolate Techniques — BK 137 46
Carpentry
— I — CAR 901 16
— II — CAR 902 16
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Cereal Chemistry and Techniques — FT 130 50
Chemistry
— General — CHEM 100 43
— Polymer — CHEM 210 43
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— Digital Control Principles — ELTC 906 32
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— Reinforced Concrete Design — STR 218 21
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— Materials — CIV 100 22
— Methods and Materials (Building Construction) — CO 901 21
Cookery
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— Basic Practical — F 900 47
— Gueridon and Lamp — FADM 134 47
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Creative Pastry and Desserts — F 905 48
Crown and Bridgework — see Dental 15

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— Advanced Unit Records — EDP 72 24
— Basic Computer Concepts — EDP 900 24
— Basic Computer Concepts — EDP 901 25
— Basic Unit Records — EDP 71 24
— Keypunch and Verifier — EDP 70 24
— Management — EDP 905 27
— Mathematics, Survey of Advanced for — MATH 912 29
Decorating
— Craft — BK 19 45
— Techniques and Design — BK 138 45
Decoration (Cake Decoration and Design) — BK 10-1C 45
Dental

— Applied Science (Dental Materials) — DENT 905 15
— Ceramics and Ceramics to Metal — DENT 904 15
— Complete Denture Prosthesis — DENT 900 15
— Crown and Bridgework — DENT 903 15
— Orthodontics — DENT 902 15
— Partial Denture Construction — DENT 901 15
Designing with Plastics — PL 903 42
Desserts (Practical Baking and Desserts) — F 901 48
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Die Design
— I — TD 200 39
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Diemaking I — MACH 204 41
Dining (The Art of Fine Dining) — F 902 48
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Drafting
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— Architectural, Part II — DR 901 20
— Electrical (Basic) — EL 903 30
— Process Pipe — DR 902 38
— Sheet Metal Pattern, Part I — SM 900 17
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Drawing
— Technical I — DR 100 38
— Technical II — DR 903 38
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— Apprentice Review — EL 900 30
— Construction, Part I — EL 10 30
— Construction, Part II — EL 20 30
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— Fundamentals — EL 905 30
— Measurements — EL 907 31

Electronic
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— Fundamentals, Part I — ELTC 900 31
— Fundamentals, Part II (Radio) — ELTC 901 31
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Engines for Yachtsmen — MAR 908 55
English
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— II — ENG 200 10
— Laboratory Approach to Reading and Language Study — ENG 901 10
— Rapid Reading — ENG 900X 10
— Technical — ENG 130 10
Entertaining (Planned Entertaining for Pleasure) — F 906 48
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— Manufacturing (Unit Operations) — FT 900 50
— Merchandising (Menu Planning) — FADM 101 47
— Microbiology — FC 200 49
— Principles of Managing, Part II — F 903 48
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Fur Course I — ST 905 56
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— II — MATH 200 I 11

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CREDIT SUBJECTS FOR CANADIAN INSTITUTE OF QUANTITY SURVEYORS 1970-71

Upon satisfactory completion of any of the following courses (and subject to the footnotes) students may apply for exemption from the applicable CIQS examinations.

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Quantity Surveying (Part I) and Building Construction Estimating (Quantities, Part I) — CO 101 ... 22
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Structural Steel Design and Detailing, Part I — STR 122 ... 21
Surveying, Part I — CO 104/SURV 110 ... 20

Footnotes

Upon satisfactory completion of both "Structural Steel Design and Detailing, Part I" and "Reinforced Concrete Design" students may apply to the C.I.Q.S. for exemption from their examinations in "Basic Design" and "Structural Steel and Reinforced Concrete".

Those students who wish to study C.I.Q.S. examination subjects not listed should make enquiries at the time of enrolment. Suitable courses may be arranged provided the enrolment meets minimum requirements.

DATA PROCESSING MANAGEMENT COURSES

Accounting
— A — ACC 900 ... 28
— B — ACC 901 ... 28
— Cost — ACC 902 ... 28
— in an E.D.P. Environment — ACC 903 ... 28
Advanced Mathematics — see Mathematics ... 11
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ACADEMIC STUDIES

ENGLISH TECHNICAL — ENG 130

This course is intended for the tradesman who wishes to improve his knowledge of the English language. It is related to trade and business English. The work covered will be equivalent to that taken by an apprentice proceeding to journeyman status.

Part I

Parts of Speech — Their function and relation to each other. A study of the errors commonly made with each group.
Use of Words in Sentences — Qualities of good sentences; unity, clarity, correctness and order of words, variety in sentence structure for effective writing.
Expressing Ideas in Paragraphs — Qualities of a good paragraph; unity, coherence and emphasis. Paragraphs on trade topics, trade tools and equipment. Oral and written exercises.

Part II

Analysis and Precis Writing — Passages from trade texts, periodicals, specifications and other sources to be rewritten in precis form.
Short Reports in Essay Form — Descriptive writing of a technical nature on installations, tools and processes. Technical writing — reports on an accident, defective parts and the technical research essay.
Letter Writing — Applications for jobs, requests for material and replies to letters of complaint.
Comprehension and Speed Reading — Practice with Developmental Reading and S.R.A.
Speech — Oral Reading and the preparation and delivery of short speeches.
Tuesday — 7:00 to 10:00 p.m. 60 hours. Campus K.

RAPID READING — ENG 900 X

This course is designed to help you improve your rate of reading and also your level of comprehension.
The course is in two sections and is executed in an up-to-date language laboratory.
During the first section of the course you will receive a diagnostic analysis of your present reading level. Based on the results of the diagnostic analysis of your present reading level an individualized program will be devised to correct reading difficulties.
In the second section emphasis will be placed on reading improvements to raise your reading speed and level of comprehension.
You will also learn the modern methods of information processing.
Tuesday — 7:00 to 10:00 p.m. 30 hrs. Campus T. Fee — $26.00.

LABORATORY APPROACH TO READING AND LANGUAGE STUDY — ENG 901

This course is designed for those teachers who wish to examine, study and implement the techniques involved in the laboratory approach to teaching reading and language.
The following topics will be discussed:

- The philosophy of individualized instruction
- The role of instructor in an individualized program
- Individual and group activity
- Evaluation of equipment and programs

Thursday — 7.00 p.m. to 10.00 p.m. 30 hrs. Campus T.

ENGLISH I — ENG 100

The purpose of the course is to assist the student to express himself in simple, clear, correct English.
Oral and written communication. The development of clear, concise, well-organized communication with specific application to technical writing and oral presentations. Contemporary ideas — a study of modern literature and current issues.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

ENGLISH II — ENG 200

Prerequisite — ENG 100
The aim of the course is to enable the student to use the English language with greater skill, facility and precision. The preparation of formal talks and lectures on technical subjects. The philosophy of good writing. Technical research, study of basic library resources used in research. The technical report, organization and format, assigned reading.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

ECONOMICS (Outline of Economics) — EC 100

Course Content — Basic economic problems, supply and demand, business units, personal finances, money and banking, labor, international trade, business cycles and national accounts, social services.
Textbook — Understanding the Canadian Economy, M. Trimble
Publisher — The Copp Clark Publishing Co. (1957)
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

INDUSTRIAL PSYCHOLOGY — PSY 201

The aim of this course is to help student understand human behaviour. The following topics will be studied and discussed: learning theory, motivation, emotion, perception, personality theory, psychological measurement.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

ARBITRATION, INSPECTIONS AND REPORTS — AS 900

Course Content — The nature and sources of arbitration, the submission, stay of proceedings, the arbitrator, the preparation and conduct of a case for arbitration, evidence, the award and the enforcement and review thereof, costs, mechanics' liens.
Textbook — Arbitration, Russell
Publisher — Stevens (Carswell of Toronto)
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

TRADE MATHEMATICS Part I — MATH 130 I

This course is designed for tradesmen, apprentices and persons desiring a course in trade mathematics.
Course Content — Whole numbers, fractions and decimals, easy percentages, simple interest, loans, financing, discounts, trade problems in linear measure, area and volume, elementary algebraic process, solution of equations and simple formulae, principle of the slide rule and elementary operations.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

TRADE MATHEMATICS Part II — MATH 130 II

Prerequisite — MATH 130 I or equivalent.
Course Content — Review of arithmetic processes with trade applications, review of algebraic processes, simple equations and transposition of formulae, factors, powers, roots, surds, indices and logarithms, simultaneous and quadratic equations, geometry — simple constructions, deductive, geometry of the circle, trigonometry, solution of angles of any magnitude, sine and cosine rules, solution of any triangle.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

PRE-ADVANCED TECHNICAL MATHEMATICS — MATH 910

Review of Grade 11 and 12 mathematics to include arithmetic fundamentals, mensuration of areas and solids of various sizes and shapes with practical examples. Algebra — index laws, equations of first degree and second degree, factoring, powers of quadratics, logarithms, surds. Slide rule, geometric construction, the right angle triangle, Pythagorean Theorem, geometric proof for the common theorems involving lines, triangles, circles, arcs and segments. Trigonometry — the right angle triangle, reciprocal ratios, complementary ratios, basic trigonometry formulae to include derivation and practical application.
Wednesday — 7:30 to 10:00 p.m. 60 hrs. Campus K.

MATHEMATICS I — MATH 100

Prerequisite — Grade 12 Mathematics or equivalent.
Computations with measured quantities: exact and approximate numbers, scientific notation, analysis or error, slide rule and tables.
Algebra: Linear functions, systems of linear functions, determinants, quadratic functions.
Logarithms: Logarithmic and exponential functions, applications.
Trigonometry: Trigonometric functions, application to mechanical and electrical problems.
Series and progressions.
Analytical Trigonometry: Complex numbers, vector algebra.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

MATHEMATICS II — MATH 200 I

Prerequisite — MATH 100 or equivalent.
Binomial theorem. Notational Systems, Analytic Geometry: the straight line, loci, conics, general second degree equations. Differential Calculus: limits, the derivative slope, rate of change, maxima and minima of functions. Graphical Analysis. Integration: anti-differentiation, the indefinite integral, the definite integral, interpretation of the definite integral.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

MATHEMATICS III — MATH 900

Prerequisite — MATH 200
Differential calculus — functional notation, gradients, limiting value, differentiation from first principles; maxima and minima; differentiation of products and quotients of trigonometric functions with application to angular velocity and acceleration, simple harmonic motion, and electrical problems. Integral calculus — relationship between differentiation and integration; the definite integral areas; volumes by integration; integration of trigonometric functions; centre of gravity and centroids with applications; application of calculus to problems encountered in industry and in related subjects.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

MATHEMATICS IV — MATH 901

Prerequisite — MATH 900 or equivalent

Differentiation of exponential and logarithmic functions — applications to engineering problems. Moments of inertia, radius of gyration; second moment of area. The rod, rectangle, disc and cylinder. Parallel axis theory; perpendicular axis theory. Review centre of gravity and centroids: Theorems of Pappus. Standard methods of integration, such as substitution, trigonometric identities, partial fractions and parts. Radius of curvature; lengths of curves. Expansion in series; MacLaurin's Theorem. Differential Equations — simple differentiation equations of the first and second order. Complex Numbers — included as required for students specializing in Electrical or Electronic Technology.

Monday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

NUMERICAL METHODS AND DIGITAL COMPUTATIONS — MATH 902

Prerequisite — MATH 900

Course Content — Computer organization; flow charting; the Fortran language; constants, variables and expressions, input — arithmetic statement; output — control statements; logical statements; subscribed variables; functions: writing, punching and running a program, rounding and truncation errors; roots of equations; simultaneous linear equations; interpolation, numerical differentiation and integration; Taylor's series; curve fittings.

Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

STATISTICS I — MATH 903

Prerequisite — MATH 200

Broadly speaking statistics can be divided into two main types: descriptive statistics, meaning tabular or graphical presentation of data as a source of information; and inductive statistics, the object of which is to make generalizations of predictions by calculation from numerical data. It is inductive statistics with which this course should be mainly concerned; but for interest, descriptive statistics should be considered briefly. Course Content — The major topics of the course are: Introduction — descriptive and inductive statistics, terms and definitions, sigma notation. Frequency distributions. Measures of location and dispersion. Probability concepts. Theoretical distributions, binomial, normal and Poisson. Sampling distributions. Control charts for means, range, attributes, proportions and percent defectives. Problems of estimation.

Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

BOOLEAN ALGEBRA AND DIGITAL COMPUTERS — MATH 904

Prerequisite — MATH 200

Course Content — Numbering systems, basic principles of Boolean algebra, basic operations, basic theorems and truth tables, advanced theorems, minimization techniques, circuit analysis and design by Boolean techniques.

General description, classification and organization of compuiers, input and output forms and devices, memories, types and properties, the arithmetic unit, steps in "solving a problem" with a computer, a Fortran program, constants, variables and expressions, mathematical functions, arithmetic statements, input and output, transfer of control, GOTO and IF, writing, punching and running a program. Case studies introducing basic numerical methods relevant to digital computations.

Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

APPLIED PHYSICS (TECHNICAL) — PHYS 133

Prerequisite — Grade 10 or equivalent.

Air — Physical and chemical properties, pressure and vacuum, measurement of pressure, the barometer, the manometer, absolute pressure, gauge pressure.

Water — Physical and chemical properties, density and specific gravity, calculation of pressure at a depth, capillarity, pH factor.

Heat — Temperature scale, heat transmission, radiation, convection conduction, the B.T.U., latent heat, coefficient of expansion, mechanical equivalent of heat, heat loss and prevention.

Gas Laws — Expansion and compression of gases, Boyles' law, and vacuum pump, the compression pump.

Hydraulics — Fluids under pressure, action of pressure pumps, action of the venturi, the Water Hammer.

Properties of Materials — Basic metallurgy, ferrous and non-ferrous metals, heat treatment.

Machines — Principles, efficiency, levers, inclined plane, gear drives, belt and chain drives.

Work energy and power — Units of energy and power, horsepower.

Strength of Materials — Stress and strain, safety factor, Young's Modulus.

Monday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

PHYSICS I — PHYS 100

Prerequisite — MATH 100 or equivalent

Properties of matter, mechanics — force, motion, speed, velocity, acceleration, projectiles, momentum, simple machines, work, friction, elasticity; heat — temperature measurements, heat transfer, expansion, heat units, latent and super heat. Sound waves; light — intensity, inverse square law, speed of light; ray optics, wave optics, including lenses, interference, diffraction and polarization.

Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

MODERN PHYSICS — PHYS 200

Prerequisite — MATH 900 and PHYS 100

Course Content — Electro Magnetism: Electrostatics, Electromagnetics, change practical ballistics, electromagnetic waves and spectrum. Atomic Physics — Periodic Table (Physical point of view). Emission and Absorption of Radiant Energy, early structure of an atom, quantum theory, waves of particles, Bohr atom and line spectra, Modern atomic model and Schroedinger Wave Equation. Physics of the solid state — crystaline solids, experimental methods of determining crystal structure, classification by structure, classification binding energy displayed, electronic structure of solids. Structure and behaviour of metals, structure and behaviour of semi-conductors, semi-conductor devices, nuclear physics.

Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

MECHANICS I — MECH 100

Prerequisite — MATH 100 or equivalent (prior to or concurrent with Mechanics I).

Statics — Basic principles of statics: coplanar parallel and concurrent force systems; friction; centroids and centres of gravity; second moments of areas. Dynamics — basic principles, rectilinear motion, work, energy and power; impulse, momentum, impact.

Monday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

MECHANICS II — MECH 200

Prerequisite — MECH 100 and MATH 900

Statics — Review of force systems — coplanar, non-coplanar, parallel, non-coplanar concurrent, non-coplanar non-current. Friction. Dynamics — relative velocity; torque, angular motion and energy; motion in a circular path; simple harmonic motion; pressure of liquids; flow of water.

Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

MECHANICS OF MATERIALS I — MECH 110

Prerequisite — MATH 200 and MECH 100

Mechanical properties and testing; unit stress and strain; beam type members — statically determinate; beam type member design; deflection due to bending; thin cylinders and joints; resilience; torsion; combined stresses.

Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

MECHANICS OF MATERIALS II — MECH 210

Prerequisite — MECH 110 and MATH 900

Fatigue and stress concentration, statically determinate members, statically indeterminate members, properties of materials, columns, combined stresses, thick walled and compound cylinders.

Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

INCOME TAX AND THE LAYMAN — EC 900 X

A course especially designed to help you, the taxpayer, cope with your income tax problems. The course will provide the answers to questions concerning the following:

Who is taxable
What deductions can be claimed
How certain types of income are taxed
Different forms of taxes
Liability for tax
Ontario Succession Duties
How to file your return
Why make out wills
How to obtain relief from taxes

Thursday — 7:00 to 10:00 p.m. 30 hrs. Campus CL.
Fee: $26.00. Commencing January 12th. Registration Jan. 5, 6, 7.

COMMUNICATIONS MEDIA TECHNOLOGY:

AUDIO VISUAL THEORY AND TECHNIQUES — AS 901

A course designed for school teachers, instructors in industry, and technical or sales supervisors engaged in directing or organizing modern media presentation.

Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus T. Fee — $40.

AUDIO VISUAL WORKSHOP — AS 902

An intensive course for the acquisition of skills in the preparation of A/V materials. This course is suitable for the novice as well as A/V technicians already working in this field, and who wish to acquaint themselves with the latest techniques. (90% practical work).

Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus K. Fee — $50.

VISUAL MEDIA WORKSHOP — AS 903

Prerequisite — A/V workshop or equivalent experience.
An advanced course for the perfection of skills in the production of slides, transparencies and other projected visuals. (90% practical work).
Tuesday & Thursday — 7:00 to 10:00 p.m. (Commencing March 1972) Campus K — 60 hrs. Fee — $75.

BASIC PHOTOGRAPHY — AS 904 X

Designed to provide the beginner with a knowledge of how and why of photography and the advanced with a better understanding of the elementary principles of the photographic processes. A comprehensive approach to photographic optics and exposure, emulsions, filters and lighting, film and print processing and camera techniques.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus K. Fee — $50.

FILM PRODUCTION — AS 905

An overview of 16mm film production. Designed to give the student insight and practice in lighting, shooting, sound mix, animation and editing. Guest lecturers and demonstrations by experts from the film industry.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T. Fee — $40.

TV WORKSHOP — AS 906

This course is a practical seminar which covers the essential elements in the production of industrial and educational programs for CCTV and videotaping.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus T. Fee — $40.

BUSINESS LAW — AS 907

A summary of our laws of contract, employment, agency, sales of goods, insurance, bailments, real estate, negotiable instruments, partnerships, Corporation, bankruptcy, trade marks, business crimes and torts.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

CONSTRUCTION LAW — AS 908 (Bylaws and Mortgages)

Course Content — Construction laws and bylaws, contracts, engineering agreements, labour laws including industrial relations and trade disputes, Workmen's Compensation, patents and inventions, trade marks, industrial designs and copyrights, company law, boundaries and surveys, easements, building trades protection, factory and shop acts, mortgages, mechanics' liens.
Textbook — Engineering Law by Laidlaw, Young and Dick
University of Toronto Press
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

APPLIED ARTS

DENTAL TECHNICIAN

Complete Denture Prosthesis — DENT 900
Partial Denture Construction — DENT 901
Orthodontics — DENT 902
Crown and Bridgework — DENT 903
Ceramics and Ceramics to Metal — DENT 904
Applied Science (Dental Materials) — DENT 905
Business Management — EC 902

These courses are offered to technicians who are at present working in a dental laboratory or for a dentist and cover same work as provided in our DENT 100-day course.
Theory and practical work is offered in these courses of three hour sessions each evening.

Monday	Partial Denture Construction
Tuesday	Complete Denture Prosthesis
Wednesday	Ceramics and Ceramics to Metal
Thursday	Orthodontics
Thursday (Saturday)	Crown and Bridgework
Monday	Applied Science (Dental Materials)
Thursday	Business Management

Every attempt will be made to provide each student with the instruction and experience he most needs on an individual basis.
As above — 7:00 to 10:00 p.m. 90 hrs. Campus CL.

GEMMOLOGY — JWL 900

Prerequisite — Applicants may either be employed in the jewellery industry or be interested in jewellery design as a hobby.
This course is offered in close co-operation with the Gemmological Association of Great Britain. The course is taken during two successive winters and upon successful completion of the two examinations the Fellowship of the Association will be granted.
Materials and books $100.00 per session.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

JEWELLERY MAKING — JWL 901

Prerequisite — Currently employed in the jewellery industry or hobbyists.
Course Content — Planishing, hard soldering, finishing and polishing of precious metals, elementary jewellery repairs, shaping and forming settings for coloured stones and pearls, transferring designs to metals, cuttlefish casting, centrifugal casting, making models for fast production methods, handmaking of rings, brooches, pendants, earrings and bracelets.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

TEACHING TECHNIQUES — ED 900

This course is designed for people in industry, commerce professions and adult education who have an interest in the instruction of other people. It is a basic course combining a minimum of pedagogical theory with practical instructional technique.
Course Content — Theories of learning — adult learning — individual differences — subject analysis — lesson planning — curriculum development — lesson types — teaching aids — evaluation — practice teaching — critical appraisals of teaching techniques.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

ARCHITECTURAL TECHNOLOGY

BRICKLAYING — MAS 900
Prerequisite — This course is for tradesmen interested in improving and upgrading their skills and also for laymen who are interested in the trade.
Course Content — Bonds, preparation of mortars, layout of different types of walls, piers, pilasters, tools and equipment, types of bricks with characteristics and sizes, sand, lime and cement, methods of storage preparation of mortars in cold weather.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

CABINET-MAKING — CAR 900
Prerequisite — Persons familiar with the fundamentals of cabinet making who are interested in refreshing or upgrading their skills.
Course Content — Conditioning and use of hand tools and machines, joints and methods used in cabinet making, layout and design.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

CARPENTRY I — CAR 901
Prerequisite — Must be working as an apprentice or journeyman carpenter.
A theoretical and practical refresher course. Course content — House framing and roofing insulating qualities, National Building Code.
Thursday — 7:00 to 10:00 p.m. 6 0hrs. Campus K.

CARPENTRY II — CAR 902
Prerequisite — Carpentry I
Course Content — Basic stair design and layout, concrete practice, supervisory responsibilities.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.
Starting October 1970.

SIGNWRITING — SIGN 900
This course is designed to give the fundamentals of general signwriting and the hand-cut silk-screen process. Course Content — Basic lettering strokes, alphabets, colour theory and the principles of good layout. Elementary silk-screen process.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

PLUMBING BASIC — PLUM 900
Course Content — Measuring pipe, pipe materials, drainage terms, fundamentals of drainage design, stack terms, footings and terminals, traps and trap seal loss, vents and venting, wastes, sizing, prohibited fittings and connections.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

PLUMBING INTERMEDIATE — PLUM 901
Course Content — Stack, wet, loop and circuit venting, stack elevation work, grease and oil interceptors, sewage tanks, floor drains, drain plans, water services and meters, B.T.U's, pressures and heads.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

PLUMBING QUALIFICATION — PLUM 902
This is designed as a refresher course in general plumbing theory and code (Provincial) for those required to write the Ontario Certificate of Qualification examination.
Two nights per week — Tuesday and Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

PLUMBING DESIGN ENGINEERING — PLUM 903
This course is intended to provide design draftsmen, plumbing foremen and plumbers with the fundamentals of plumbing and drainage design and the basic understanding of principles and practices used in plumbing engineering.
Course Content — Roof and area drainage, manhole and catch basins, flow-in open channels and conduits, water pipe sizing, flow co-efficients, demand flow; hot water generators and storage tanks, water hammer, sewage pit sizing and pump selection, pump controls, heads and curves, selection of plumbing fixtures, locations for soil waste and vent stacks.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

PLUMBING DESIGN AND INSTALLATION — PLUM 904
This course is designed for those wishing to prepare themselves for the responsibility of a master plumber.
Prerequisite — Journeyman's licence or Ontario Certificate of Qualification.
Course Content — Review of legislation relevant to the construction industry. Examination discussion and interpretation of the Ontario Plumbing Code. Mathematics and physics necessary to understand design problems. Discounts, overhead and profit applications.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

PLUMBING ISOMETRIC AND MATERIAL TAKE-OFF — PLUM 905
Course Content — Development of scaled piping isometrics and interpretation. Formation of material take-off methods.
Tuesday and Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

SHEET METAL PATTERN DRAFTING, Part I — SM 900
This course is designed for apprentices and beginners and covers the basic principles of pattern drafting.
Course Content — Use of drafting equipment by parallel line and radial line developments, oblique cylinder by parallel line method, segmental elbows, by parallel line and radial line methods, oblique cone by radial line method.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

SHEET METAL PATTERN DRAFTING, Part II — SM 901
Prerequisite — Previous pattern drafting experience.
Course Content — Regular and irregular tapers, square to round and other transition pieces, tapered elbows of different sections, streamlined fittings, double and multiple branches of different sections, all by triangulation method.
Wednesday 7:00 to 10:00 p.m. 60 hrs. Campus K.

SHEET METAL THEORY — SM 902
This course is designed to assist apprentices failing to qualify for advancement in the apprenticeship program and also for those preparing to write the Certificate of Qualification Examination.
Two nights per week — Tuesday and Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

SHEET METAL DESIGN AND INSTALLATION — SM 903
This course is designed for those who wish to prepare themselves for the responsibilities of a master sheet metal worker.
Prerequisite — Currently employed in the sheet metal industry with a journeyman standing.
Course Content — Labour legislation in relation to the construction industry — city bylaw, underwriters, definition of terms applied to heating and air conditioning, use of N.W.A. and A.C.A. manuals for heat loss and heat gains, pipe sizing and location of outlets and inlets in residential installation, types of fans, air flow and types of instruments used, calculations in ventilation requirements, heating and pipe sizing by velocity, use of charts and tables.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

STEAMFITTING BASIC — STEA 900
Course Content — Relevant mathematics and physics, measuring pipe, valves, boilers, gravity and forced hot water, pumps, one pipe systems, baseboard heating, radiant heating, controls, hydrostatics and hydraulics.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

STEAMFITTING DESIGN AND INSTALLATION — STEA 901
This course is designed for those wishing to prepare themselves for the responsibilities of a master steamfitter or who wish to pursue the trade beyond the journeyman level.
Course Content — Review of hot water and steam systems, introduction to labour legislation pertaining to building trades, codes and regulations, heat loss calculations, radiation selection, design of heating systems, control of systems, introduction to air conditioning.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

STEAMFITTING QUALIFICATION — STEA 902
This is designed as a refresher course in general steamfitting theory for those required to write the Certificate of Qualification Examination.
Two nights per week — Tuesday and Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

STEAMFITTING PNEUMATIC CONTROLS, Part I — STEA 903
This course is designed for journeymen steamfitters who wish to broaden their knowledge in this specialized field.
Course Content — Elements of control, advantage and performance of pneumatic controls, control drawings, pipe installations, control theory, control applications, control adjustments, air compressors, maintenance of controls.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

STEAMFITTING INTERMEDIATE — STEA 904
Course Content — Convertors, boiler controls and accessories, steam traps, vacuum pumps, selector and thermostats, pressure reducing valves, feed water heaters, superheaters, high and low pressure systems.
Wednesday — 7:00 p.m. to 10:00 p.m. 60 hrs. Campus K.

REFRIGERATION, Part I, Basic — REF 900
Prerequisite — Applicants should be employed in the refrigeration industry or some allied trade.
Course Content — Refrigeration fundamentals and principles, compression system of refrigeration, properties of refrigerants, metering devices, expansion valves, evaporators, condensers, compressors, flow equipment, electric controls and control valves, lubrication, servicing (charging and evacuation), trouble shooting problems, shop demonstrations of silver brazing.
Text — Principles of Refrigeration — Dossatt.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

REFRIGERATION, Part II, Intermediate — REF 901
Prerequisite — Successful completion of REF 900 or equivalent experience.
Course Content — Review of fundamentals, defrosting methods, compressor drives, instruments and meters, piping and refrigerant lines, pressure drops, heat calculations refrigerated enclosures, survey or refrigeration applications, humidity in refrigeration, cooling load calculations, secondary refrigerants, liquid cooling, absorption systems, codes and by-laws, safety precautions.
Text — Principles of Refrigeration — Dossatt.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

REFRIGERATION, Part III — REF 902
Prerequisite — REF 901
Course Content — Roof top condensers, piping systems, brines, pumps, chillers, centrifugal compressors, heat pumps, symbols, starts and contactors, packaged units, humidifiers, dehumidifiers, spray apparatus, ponds, air cleaning equipment electronic and curtain, odour control. Load calculation, commercial and air conditioning, selection of equipment, pneumatic systems, control circuitry, trouble shooting, safety.
Tuesday — 7:00 to 10:00 p.m. 90 hrs. Campus K.

AIR CONDITIONING DESIGN, Part I — AIR 900
This course is designed to cover the basic theory of air conditioning system design. It is of practical use to engineers, technicians, designers and draftsmen employed with consulting engineers, manufacturers and contractors in the air conditioning industry.
Prerequisite — Applicants should have a reasonable knowledge of mathematics at the Grade X level.
Course Content — Psychrometers, heating and cooling load calculations, low pressure duct design, fan laws, basic refrigeration cycle, reciprocating compressor selection, air conditioning equipment selection.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

AIR CONDITIONING DESIGN, Part II — AIR 901
Prerequisite — Successful completion of Part I or equivalent experience.
Course Content — Centrifugal compressors, absorption machines, multi-office air conditioning systems, induction system design, high velocity duct design, water piping systems, control systems, water treatment, sound and vibration. This course includes a Conduit Weathermaster System Design Project.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

AIR CONDITIONING CONTROL — AIR 902
Prerequisite — AIR 901 or equivalent.
This course is designed to cover the basic theory and application of automatic controls as applied to heating, ventilating and air conditioning systems. It is of practical use to engineers, technologists and draftsmen employed with the consulting engineers, contractors and automatic control manufacturers.
Course Content — Introduction to automatic control, fundamentals of measurement: electric, electronic and pneumatic control circuits and units. Selection of control valves and dampers, typical applications to radiation, central-fan heating, commercial refrigeration, fan-coil units, induction units and year-round air conditioning systems.
Wednesday — 7:00 to 10:00 p.m. 90 hrs. Campus CL.

GAS FITTER (Pre-Licence) — HT 140
This course is designed for persons presently engaged in the heating or appliance field, who wish to obtain the necessary knowledge to write the Department of Energy & Resources management gas fitters examination.
Course Content — Properties of natural gas, fundamentals of combustion, gas piping, venting, appliance requirements, fundamentals of gas controls, conversion burners, commercial and industrial utilization, service problems ,shop work.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

WARM AIR HEATING AND AIR CONDITIONING (Domestic) — HT 900
Prerequisite — Grade X or equivalent.
This course is provided for persons who have a general knowledge of house construction and the problems relation to domestic heating; persons who may be connected with the heating industry who wish to acquire a working knowledge of the basic and more advanced techniques involved in the design and application of warm air heating and air conditioning systems and equipment.

Course Content — Heat loss and heat gain calculations by N.W.A. Methods — Components, equipment and controls for heating and cooling, system specifications, zoning and duct sizing by N.W.A. manuals — 'A' and No. 9, use of the Equal Friction Charts. Uses of the Psychrometric Chart. Humidification and dehumidification, the heat pump, air cleaning, system balancing.
Monday — 7:00 to 10:00 p.m. 90 hrs. Campus CL.
Fee $40.00.

OIL BURNER, Part I — HT 130
This course consists of approximately 40% theory and 60% shop and is designed to prepare students to write examinations for Oil Burner Servicing Licence Class III.
Prerequisite — Grade X or working with associated trades.
Course Content — Types of domestic burners, parts of burners, filters, purpose of controls, settings for basic controls, fuel line problems, safety precautions, public relations, procedure for annual conditioning.
Tuesday — 7:00 to 10:00 p.m. 30 hrs. Campus CL.

OIL BURNER, Part II — HT 131
This course consists of approximately 50% theory and 50% shop. It is designed to prepare students to write the examination for Oil Burner Servicing License Class II.
Prerequisite — HT130 or satisfactory experience.
Course Content — Theory of combustion, types of burners, fuel units, transformers, combustion chambers, nozzles, tank installations, controls, heating systems, wiring diagrams, service procedures, regulations, public relations.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

COMMERCIAL AND INDUSTRIAL OIL BURNERS — HT 901
This course is designed to prepare students to write the examination for Oil Burner License Class I.
Prerequisite — Oil Burner Class II License.
Course Content — Properties of commercial fuel oils, types of burners, preheaters, burner selections, flue gas analysis, combustion control, non-programming, sequence, programming schematic piping and wiring diagrams of combustion systems, tank installations, service analysis and regulations.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

GAS APPLIANCES — AP 900
Prerequisite — Grade X or equivalent.
Course Content — Gas ranges, classification and types, gas range adjustment and servicing, tip burner adjustments, burner adjustments, low temperature oven burner adjustments, oven heat control, broiler adjustments, burner valves, range pilots, by-pass flame adjustments, automatic gas range ovens, Electrical, schematic wiring diagrams, circuit testing and fault finding, gas dryers, classification and types, gas dryer operation, dryer controls, thermostat, timer, door switch, solenoid valve, warp safety switch, dryer installation, gas connection, exhaust system, electrical systems, schematic wiring diagrams, circuit testing and fault finding, miscellaneous appliances, gas refrigerators, gas fired incinerators, gas lamps, LP conversion.
Monday and Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.
Commencing February, 1971.

COMMERCIAL AND INDUSTRIAL GAS — AP 901
Prerequisite — Applicants should have a Gas Fitters License and be employed in the industry.
Course Content — Fundamentals of combustion control, flame detection devices, firing systems, firing sequences and programs, logic diagrams, combustion controls, non-programming and programming, gas fired conversion burners and boilers, boiler classification and terminology, input calculations, burner installations, flue gas analysis and boiler efficiency, types of conversion burners and package boilers, required CGA valve train assemblies, schematic wiring diagrams, commercial hot water heaters, type, hot water heaters selection (calculations), mixing valves and accessories, gas controls, commercial hot water systems, miscellaneous equipment, multiple hot water heating units, infra red burners, make-up air heaters and gas fired air conditioning.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

PROPANE GAS — AP 902
Prerequisite — Gas fitters licence for natural gas.
This course is designed to prepare the student to write the examination for the Propane Gas Fitters License.
Course Content — Properties of propane gas, basic requirements for field approved appliances, propane piping and tubing requirements, review of ventilation and combustion air, general requirements for appliances. Storage and handling cylinder filling, location and storage, propane tanks, accessories and equipment. Transports and tank trucks and the transportation of propane. Propane as an engine fuel, vapourizers, indirect and direct fired, cylinder systems for highway mobile vehicles. Review of basic domestic gas burner controls and heating system. Review of the domestic hot water heater.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

HYDRONIC HEATING — AIR 903
Prerequisite — Grade X or equivalent.
This course is provided for persons wishing to gain a working knowledge of the design techniques for residential hot-water heating systems.
Course Content — The I-B-R detailed and modern methods of heat loss calculation. Components, equipment and controls. Design of 'Series Loop Systems', 'One-Pipe Systems' and 'Two-Pipe Reverse Return Systems'.
Monday — 7:00 to 10:00 p.m. 30 hrs. Campus CL.

APPLIANCE SERVICING, Part I (Electrical Fundamentals and Small Appliances) — AP 903
Prerequisite — Grade X or satisfactory equivalent.
Course Content — Nature of electricity, basic electrical quantities, Ohm's Law and its application, electrical circuits, magnetism and electromagnetism, electrical circuitry and fault finding, motors, power and heating effects, electrical measuring instruments, various switching devices, theory and repair of small appliances. Ranges.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

APPLIANCE SERVICING (Domestic Refrigeration) Part II — AP 904
Prerequisite — Grade 10 or equivalent.
Course Content — Fundamentals, compression system of refrigeration, refrigerants, liquid feed devices, evaporators, compressors, condensers, electric motor controls, defrosting methods, food preservation, evaluating and charging, leak testing, dismantling and assembling procedures for refrigerators and air conditioners, circuit tracing, fault finding, service analysis.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

APPLIANCE SERVICING (Laundry Equipment) Part III — AP 905
Prerequisite — Satisfactory completion of AP 903 or equivalent.
Course Content — Theory and operation of wringer and automatic washers, dryers, and dishwashers; fault finding and repair procedures, circuit tracing, service analysis.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

ARCHITECTURAL DRAFTING, Part I — DR 900 (Drafting)
Course Content — Drafting equipment and procedure, Canadian symbols and conventions, foundation and floor plans for various types of construction, site plans, typical wall section, window details, door details, lathing and plastering details, stair details, fireplace and chimney details, simple structural steel and reinforced concrete details, freehand sketches.
Textbook — Architectural Drawing and Light Construction by Muller, publisher McGraw-Hill Publishing Co. Architectural Drawing Standards, No. 33GP7, by National Research Council, publisher Queen's Printer, Ottawa.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

ARCHITECTURAL DRAFTING, Part II — DR 901
Prerequisite — Successful completion of the first year course, persons presently employed in the field of architectural drafting at the junior level or graduates of Grade 12 Architectural Drafting.
This course will be a continuance of the first year with elaboration of topics of the first year and additions of new materials and methods to allow progression in the drawing of a complete set of working drawings for a small industrial building. The emphasis of this course is NOT on aesthetic or structural design but primarily on skill development required to produce a set of working drawings to the highest standard of delineation.
Due to the amount of work required, much of the actual drawing must be done outside the regular hours set for this evening course.
Course Content — Planning drawing layout — presentation drawing in the form of rendered plan and elevation — drawing the plan or plans, elevations, full sections, details and structural drawings.
Text — Architectural Drafting and Light Construction by Muller, publisher McGraw-Hill.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

BUILDING TRADES BLUEPRINT READING — DR 10/20/131
This course is intended for those working in all branches of the building trades and serves as a foundation for further study. It is also of much practical value to people engaged in many fields of business and industry who work in conjunction with the building trades. The content of the course includes the basic principles of drawings and a detailed study of blueprints.
Course Content — orthographic projection, dimensions, pictorial drawing, drawing to scale, symbols and conventions, standard constructions, plan study, construction details, plan reading and interpretation.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

SURVEYING, Part I (Surveying and Levelling) — CO 104/SURV 110
Course Content — Fundamental principles of surveying, levelling, chaining, use of the transit, bearings and azimuths, field notes, transit surveying, latitudes and departures, calculation of missing courses, calculation of areas D.M.D's earthwork computations, introduction to curves.

Textbook — Simplified Site Engineering by Parker, Gay and MacGuire, publisher John Wiley & Sons Inc.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

SURVEYING — SURV 101
Prerequisite — MATH 100
Course Content — Importance of surveying, correction for measured distances, use of simple distance measuring equipment. Measurement of angles — with transit; differential trigonometric, profile and crosssection levelling; type, adjustments and use of levels — problems. Methods of stadia — problems, topographical surveys contour lines, direction of line, magnetic Meridian and declination, isogonic chart, azimuth and bearing of a line, traverse surveys and computations, closing a traverse by latitudes and departures, traverse computations, error of closure, coordinates, area by double meridian distance — problems, preparations of topographic map — construction surveys, municipal surveys, grades, methods of setting grades — horizontal circular curves, theory, computations, field practise — demonstration of modern survey equipment.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

SURVEYING, Part II — SURV 201
Prerequisite — SURV 101 or equivalent.
Course Content — Simple curves, vertical curves, curve intersections, transition curves, stadia surveying, route surveys, area surveys, optics, adjustments of instruments, photogrammetry, observation for meridian.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

PRINCIPLES OF CONCRETE — CO 900
This course is designed to offer a basic knowledge of concrete as a material and also includes actual laboratory testing procedures. The course covers the manufacture, specifications, types and testing of Portland cements. The characteristics, types and testing methods related to aggregates will be discussed. The properties and quality control testing of fresh and hardened concrete will be covered.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

REINFORCED CONCRETE DESIGN — STR 218
Course Content — Principles of mechanics, forces, stresses, moments of reactions, shear and bending moments, theory of bending and properties of sections. Concrete — manufacture of cement, properties and use of aggregates and additives and placement of concrete. Reinforcing — reinforcing bars, bending and bending schedules and reinforcing bar placement. Reinforced concrete design — stresses in reinforced concrete. Modulus of elasticity design formulas for beams, diagonal tension and web reinforcement, bond, design of rectangular reinforced concrete beams, alternate design, web reinforcement for girders, design of T-beams, one-way solid slabs, load tables, design of ribbed slabs, design of stair labs, design of independent footings. National Building Code — interpretation, application.
Reference Text — Simplified Design of Reinforced Concrete by Parker, Gay and MacGuire, publisher John Wiley & Sons Inc.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

STRUCTURAL STEEL DESIGN AND DETAILING, Part I — STR 122
Course Content — Force systems, force analysis of structures, stress and strain, shear and moment in beams, design of simply supported beams — structural steel, plain material, fabrication, bolted and welded connections.
Textbooks — Structural Steel Detailing/AISC Mechanics of Materials by I. J. Levinson, publisher Prentice-Hall.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

STRUCTURAL STEEL DESIGN AND DETAILING, Part II — STR 212
Prerequisite — Structural steel design & detailing Part I or equivalent.
Course Content — Review of course content Part I. Introduction to columns, combined loading — column details, moment connections, built up members, girders, trusses, graphical and numerical stress solutions, splices for girders & trusses. Camber.
Texts — Structural Steel Detailing/AISC. Mechanics of Materials by I. J. Levinson.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

CONSTRUCTION METHODS AND MATERIALS (Building Construction) — CO 901
Course Content — Brick material, masonry, bricks, tiles, etc., doors and windows, light wood framing, foundations, excavation and waterproofing.
Textbooks — Materials and Methods of Architectural Construction by Parker, Gay and MacGuire, publisher John Wiley & Sons Inc. Principles and Practice of Light Construction by R. C. Smith.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

SOIL MECHANICS AND FOUNDATIONS — CO 100
Prerequisite — Mechanics of Materials II. MECH 210
Course Content — Classification of soils, weight-volume relations, compaction of soils, permeability, the principle of effective stress, shearing strength of cohesionless soils, shearing strength of clayey soils, origin of soils, soil exploration, spread footing — bearing capacity, consolidation, pile foundations, caissons, stability of slopes, lateral earth pressures.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

CONSTRUCTION MATERIALS — CIV 100
Prerequisite — CO 100
Course Content — Specifications and contracts related to construction, aggregates, cement, elements of quality concrete, ACT method of concrete mix design, special concretes and concrete admixtures. Manufacture and effective utilization of concrete, field problems, soil cement stabilization, introduction to asphalts, bituminous pavements, asphalt mixtures, aggregates for asphalt concrete, asphalt concrete mix design; production, construction, field control of asphalt.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

QUANTITY SURVEYING (Part I) AND BUILDING CONSTRUCTION ESTIMATING (Quantities Part I) — CO 101
Course Content — Mathematics related to take off and estimating, general methods and procedures of taking off quantities for excavation, site work, concrete formwork and masonry.
Textbooks — Method of Measurement of Construction Works (1st), publisher Canadian Institute of Quantity Surveyors. Construction Estimates from Take-Off to Bid by Norman Foster.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

MUNICIPAL BUILDING OFFICIALS COURSE — BUILDING INSPECTORS — CO 902
This course is designed to train municipal building officials in the areas covering their role as building inspectors based on the National Building Code.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

MECHANICAL INSTALLATION I — CO 903
Prerequisite — Persons employed in and studying the various aspects of the construction industry. This course is considered a necessity to prepare an individual for the industry.
Course Content — Water, sewage disposal, storm drainage, pipe sizing, traps fall, piping materials, couplings, joints, water pressure, plumbing layout, fixtures, ventilation, sprinklers.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

BUSINESS AND COMMERCE

MACHINE SHORTHAND
Machine shorthand or touch shorthand is a very modern and efficient system widely used in the United States and other countries. It is not new but is a well-established system that has been in use for over fifty years. It is written on the stenograph machine, a small, rugged, silent, non-electric machine which prints at high speed the familiar letters of the alphabet. What the typewriter has done for the pen this machine is doing for shorthand. The keyboard permits a number of letters, words and phrases to be printed at one stroke. The notes are permanently printed on paper, then transcribed on the typewriter or filed for future transcription.
With further practice following the Secretarial Course in Machine Shorthand, the attainment of high speeds is possible, opening up the highly paid fields of court reporting, reporting of commissions, conventions, meetings, arbitration hearings and so on.

MACHINE SHORTHAND — THEORY — SHM 149A
The purpose is to provide a basis for the development of speed in shorthand.
Prerequisite — Grade 12 English or equivalent.
Course Content — The basic fundamentals of the theory of Machine Shorthand, common short-forms and phrases.
Monday and Wednesday — 7:00 to 10:00 p.m. 120 hrs. Campus T.

MACHINE SHORTHAND — ELEMENTARY SPEED LEVEL — SHM 149B
This course is offered to those persons desiring to develop facility in writing machine shorthand at speeds up to 80 words per minute.
Prerequisite — SHM 149A or equivalent, plus Grade 12 English or equivalent, and 45 words per minute in typewriting.
Course Content — Development of facility in writing and reading Shorthand notes using simple commercial vocabulary. Practice in transcribing notes at the typewriter in acceptable mailable form.
Tuesday and Thursday — 7:00 to 10:00 p.m. 90 hrs. Campus T.

MACHINE SHORTHAND — INTERMEDIATE SPEED LEVEL — SHM 149C
The purpose is to develop the facility of writing shorthand of average commercial difficulty at speeds up to 100 words per minute and transcribing notes at the typewriter in acceptable, mailable form.
Prerequisite — SHM 149B or equivalent, plus Grade 12 English or equivalent, and 50 words per minute in typewriting.
Course Content — Development of facility in writing and reading shorthand notes. Practice in transcribing notes at the typewriter in acceptable, mailable form.
Monday and Wednesday — 7:00 to 10:00 p.m. 90 hrs. Campus T.

REFRESHER COURSE — THEORY OF PITMAN SHORTHAND — SH 900
This course is specially designed for those who have had Pitman Shorthand in the past, but require a quick review before going on to writing at speed.
Prerequisite — Grade 12 English or equivalent — a reasonable knowledge of the theory.
Course Content — Quick review of the principles of Pitman shorthand. Emphasis on facility in the use of short forms, contractions, intersections, and phrases.
Tuesday and Thursday — 7:00 to 10:00 p.m. 90 hrs. Campus T.

PITMAN SHORTHAND — THEORY — SHP 149A
The purpose is to provide a basis for the development of speed in writing shorthand.
Prerequisite — Grade 12 English or equivalent.
Course Content — The basic fundamentals of the theory of Pitman shorthand, common short forms, and phrases. Particular emphasis is placed on the development of a high frequency vocabulary common to all dictation.
Monday and Wednesday — 7:00 to 10:00 p.m. 120 hrs. Campus T.

PITMAN SHORTHAND — ELEMENTARY SPEED LEVEL — SHP 149B
This course is offered to those persons desiring to develop facility in writing shorthand at speeds up to 80 words per minute.
Prerequisite — SHP 149A or SH 900 or equivalent, plus Grade 12 English or equivalent, and 45 words per minute in typewriting.
Course Content — Development of facility in writing and reading shorthand notes with particular emphasis on the 1,500 common-word vocabulary. Practice in transcribing notes at the typewriter.
Monday and Wednesday — 7:00 to 10:00 p.m. 90 hrs. Campus T.

PITMAN SHORTHAND — INTERMEDIATE SPEED LEVEL — SHP 149C
The purpose is to develop the facility of writing shorthand of average commercial difficulty at speeds up to 100 words per minute, and transcribing from notes to the typewriter.
Prerequisite — SHP 149B or equivalent, and 50 words per minute in typewriting, plus Grade 12 English or equivalent.

FORKNER SHORTHAND

Forkner shorthand is designed for speeds up to 120 w.p.m. It is a system which employs a combination of longhand characters and shorthand symbols. It has been developed on the premise that it is a waste of time and a burden on the memory to learn shorthand characters for sounds that can be rapidly and easily expressed by longhand characters which the learner can already make at high speeds Where longhand characters are complicated or require a number of strokes to write, a symbol has been substituted.

FORKNER SHORTHAND — THEORY — SHF 149A

The purpose of this level is to provide a basis for the development of speed in writing shorthand.
Prerequisite — Grade 12 English or equivalent and at least 35 words per minute in typewriting.
Course Content — A presentation of the principles of the system, together with extensive dictation which begins as early as Lesson 5.
Tuesday and Thursday — 7:00 to 10:00 p.m. 90 hrs. Campus T.

FORKNER SHORTHAND — SPEED — SHF 149B

This course is offered to those persons desiring to develop facility in writing Forkner Shorthand at speeds up to 100 words per minute.
Prerequisite — Completion of Theory Level or equivalent, plus Grade 12 English or equivalent, and 45 words per minute in typewriting.
Course Content — Development of facility in writing and reading shorthand notes within the 3,000 word high-frequency range which makes up 97% of all ordinary dictation material. Practice in transcribing notes at the typewriter.
Monday and Wednesday — 7:00 to 10:00 p.m. 90 hrs. Campus T.

SHORTHAND — ADVANCED SPEED LEVEL — SH 901

This course is aimed at qualifying shorthand writers of all systems (Pitman, Machine and Gregg) for verbatim reporting positions. The following is a partial list of files open to verbatim reporters: Magistrates' Courts; County Division and Surrogate Courts; Supreme Court of Ontario; Exchequer Court of Canada; Admiralty Court; Juvenile and Family Courts; Special Examiners' Offices; House of Commons (Hansard); etc.
Prerequisite — The ability to write 140 words per minute.
Course Content — Dictation of business letters, legal and literary matters, jury charges, court testimony, etc. Emphasis is placed on the basic techniques required to attain high speeds in shorthand. High speed phrasing and short cuts are also covered.
Tuesday and Thursday — 7:00 to 10:00 p.m. 150 hrs. Campus T.

DATA PROCESSING — EDP 70 (Keypunch and Verifier)

The purpose is to bring the student to a high standard of accurate speed and machine familiarity so that the operator will be able to produce an acceptable quantity of high quality work on the I.B.M. Keypunch and Verifier.
Prerequisite — Grade 10, 35 words per minute typewriting speed and a passing mark on the I.B.M. Keypunch operators test.
Course Content — 20 taped lessons prepared by I.B.M. for Keypunch Models 024, 026, 029, 059 and 056 Verifier. The operation and names of the various parts of the machines.
Monday and Wednesday — 7:00 to 10:00 p.m. 90 hrs. Campus T.

DATA PROCESSING — EDP 71 (Basic Unit Records)

The purpose is to acquaint the student with some objectives of a typical commercial E.D.P. installation. Unit record techniques are presented as one means of attaining these objectives.
Prerequisite — Grade 12, and the knowledge of basic bookkeeping and a minimum score of 29 on the I.B.M. Punched Card Machine Operator Aptitude Test.
Course Content — Functional wiring principles and the functions of printing, punching, comparing and selection for I.B.M. Models 077, 083, 088, 402, 514, and 548. Techniques of machine operation, flowcharting, problem analysis, planning card layouts, diagnosis of errors using typical accounting applications.
Tuesday and Thursday — 7:00 to 10:00 p.m. 120 hrs. Campus T.

DATA PROCESSING — EDP 72 (Advanced Unit Records)

The purpose is to increase proficiency and experience on unit record equipment and to develop work habits which will enable the student to work with a minimum of supervision.
Prerequisite — Successful completion of E.D.P. 71 and classification as Unit Record Operator Trainee.
Course Content — More complex techniques on Models 077, 088 and 402; design of a card file and processing of same through all machines considered in the course.
Monday and Wednesday — 7:00 to 10:00 p.m. 120 hrs. Campus T.

DATA PROCESSING — EDP 900 (Basic Computer Concepts)

The purpose is to expose students to all phases of the E.D.P. cycle, including programming and operating, to develop the ability to discuss an E.D.P. problem intelligently at any level.
Prerequisite — Successful completion of E.D.P. 71 and classification as Computer Operator Trainee.
Course Content — Introduction to various I/O devices, concepts of computer operations,

systems flow charts and block diagrams, design of files for various I/O media, coding, case problems, visit to computer centre to test programme.
Tuesday and Thursday — 7:00 to 10:00 p.m. 120 hrs. Campus T.

DATA PROCESSING — EDP 901 (Basic Computer Concepts)

The purpose is a continuation of advanced work as shown in E.D.P. 900.
Prerequisite — EDP 900 or equivalent.
Course Content — Advanced work to various I/O devices, concepts of computer operations, systems flow charts and block diagrams, design of files for various I/O media, coding, case problems, visit to computer centre to test programme.
Monday and Wednesday — 7:00 to 10:00 p.m. 120 hrs. Campus T.

BUSINESS MACHINES — BM 900 (Accounting Machines)

The purpose is to introduce students to machine accounting procedures and to develop an operating speed which will be acceptable to industry.
Prerequisite — Grade 10 and a typewriting speed of at least 35 words per minute.
Course Content — Instruction and practice in machine operation through the use of pre-recorded tapes and practical exercises. Accounts receivable, Accounts payable, Journal distribution and payroll are taught using the following accounting machines:

National Cash Model 3300
Burroughs Sensimatic Models F 1100, F 6100
Olivetti-Underwood Model 1502
Monroe-President Model 145B
Smith Corona Marchant Model 602

Monday and Wednesday — 7:00 to 10:00 p.m. 120 hrs. Campus T.

BUSINESS MACHINES — BM 901 (Comptometer)

The purpose is to develop a fast accurate comptometer operator who upon completion of the course will be employable by industry.
Prerequisite — Grade 10.
Course Content — Instruction and practice in addition, subtraction, multiplication and division. Operating techniques, regular speed and progress tests. All practice material to be representative of today's work in industry.
Monday and Wednesday — 7:00 to 10:00 p.m. 120 hrs. Campus T.

BUSINESS MACHINES — BM 902 (Comptometer) B

The purpose is to develop a fast accurate comptometer operator who upon completion of the course will be employable by industry.
Prerequisite — BM 901 or equivalent.
Course Content — Advanced work in addition, subtraction, multiplication and division. Operating techniques, regular speed and progress tests. All practice material to be representative of today's work in industry.
Tuesday and Thursday — 7:00 to 10:00 p.m. 120 hrs. Campus T.

BUSINESS MACHINES — BM 903 (Duplicating Machines)

The purpose is to acquaint the student with current duplicating procedures and techniques which are employed in today's modern office.
Prerequisite — Grade 10 plus an acceptable typewriting speed.
Course Content — Preparation of masters and stencils using Xerox, typewriter and plate making equipment, line justification and error correction procedures. Operational maintenance and techniques of the Xerox 914, Offset Press, Mimeograph and Spirit Duplicator.
Monday and Wednesday — 7:00 to 10:00 p.m. 120 hrs. Campus T.

BUSINESS MACHINES — BM 904 (Printing and Rotary Calculator)

The purpose is to develop competent calculator operators with an acceptable operating speed and the ability to solve mathematical business applications as related to calculators.
Prerequisite — Grade 10
Course Content — Instruction and practice to develop 10 key and full keyboard ease of operation, all phases of addition, subtraction, multiplication and division as related to practical business applications taught with the following equipment: Friden, Monroe, Olivetti-Underwood, Smith Corona, Marchant and Victor.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

BASIC TYPEWRITING — TYP 900

An intensive course in keyboard typewriting. Taught using the Lumisonic System. This course is designed to develop quickly a high keyboard typing speed.
Course Content — The first six hours will be spent learning the keyboard with emphasis on posture, good stroking, rhythm and correct fingering. Later lessons will develop speed and accuracy to a high order using modern, programmed, instructional techniques.
1 hour per night — 5 nights a week — 10 weeks. Campus T.

TYPEWRITING A — TYP 152A (Beginning Typewriting)

The purpose is to: (a) achieve a thorough mastery of the keyboard using the touch system, plus an introduction to basic typewriting setups. (b) achieve 25 words per minute on 5-minute tests.

Prerequisite — Basic knowledge of English.
Course Content — All the keys will be taught with special emphasis on the touch system (posture, good stroking, rhythm and correct fingering are an integral part.) The names, care, and proper manipulation of the parts of the machine will be introduced as required. The rules of syllabication and capitalization, an introduction to basic centering, tabulation and letters, plus typing of value for personal use. The speed objective is 25 words per minute on 5-minute tests.
Monday and Wednesday — 7:00 to 10:00 p.m. 90 hrs. Campus T.

TYPEWRITING B — TYP 152B (Advanced Typewriting)
The purpose is to: (a) further develop typewriting skills and to concentrate on more advanced typewriting setups. (b) achieve 40 words per minute on 10-minute tests.
Prerequisite — 25 words per minute or TYP 152A.
Course Content — During this course, emphasis will be placed on practical typing of tabulation — tables, financial statements, centering — menus, programs, announcements, business letters — different styles, placement, carbon copies and envelopes, essential business forms, erasures and corrections, squeezing and spreading, duplicating — the typing of ditto, stencils and offset masters.
In addition, skill development to bring the typist up to 40 words per minute or better on 10-minute tests.
Tuesday and Thursday — 7:00 to 10:00 p.m. 90 hrs. Campus T.

OFFICE PRACTICE A — OP 149A
The purpose is to familiarize the student with the requirements, the characteristics, and the organization of business offices and the duties most frequently performed. Lecture time is to be kept to a minimum and practical assignments are emphasized.
Course Content — Business organization — classification of business and types of ownership; purchasing, sales and accounting routines; the stenographic, administrative and receptionist duties of a secretary; sources of information; reports; manuscript typing and proofreading.
Familiarization with the services — postal, telephone, telegraph, cable and wireless, and banking — used by employers. More advanced typing theory with emphasis on typing from corrected copy/manuscript work, typing of balance sheets and financial statements with insertions made in red, and memoranda.
Monday and Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

OFFICE PRACTICE B (Stenographic) — OP 149B
The purpose is to give the student a thorough familiarization with filing techniques and other duties performed by secretaries. Lecture time is to be kept to a minimum and practical assignments are emphasized.
Course Content — Different types of filing systems and procedures involved in filing — preparation, filing steps, cross-referencing, etc. The emphasis in the filing instruction is on completing practical, office-type assignments. Familiarization with the different kinds of office machines — reproduction processes and machines; and dictating and transcribing machines. Emphasis is also on the personal work the student, as a secretary, might be called upon to perform for her employer and includes such items as travel arrangement — typing itineraries, secretarial duties, expense reports; preparing legal documents — affidavits, endorsement, wills, etc.; arranging meetings — agendas, memos, minutes; and a general review of office standards, grooming and deportment.
Prerequisite — Office Practice I or equivalent.
Tuesday and Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

DICTAPHONE — BM 905
The purpose is to prepare the student to become accredited Dictaphone secretary, with an initial quality of 60 fifteen-line letters a day.
Prerequisite — A thorough knowledge of Business English, spelling and setup of letters (minimum of Grade XI) plus a typing speed of 45 words per minute.
Course Content — Typing from dictabelt records put out by the Dictaphone Corporation. These belts include material on the following subjects:

1. General Business Communications
2. Secretarial Requirements
3. Office Memoranda
4. Transportation
5. Entertainment Industry
6. Advertising and Publishing
7. Communication Industry
8. Banking and Insurance
9. Packaging
10. Automotive Industry
11. Metals Industry
12. Textile Industry
13. Education
14. Science and Engineering
15. Social Service and Welfare
16. Government

17. Medicine
18. Law

In addition, the dictatypists are required to complete the Grade XI course in Office Practice as well as work in the Practice Office.
Monday and Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

BUSINESS MANAGEMENT I — BUS 900
Course Content — The nature of theory, the communication process, communication channels, characteristics of the Decision-Making process. The legal and structural setting of education, the essentials of bureaucracy, five myths of organization.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

BUSINESS MANAGEMENT II — BUS 901
Prerequisite — BUS 900
Course Content — Review of I, the problems of internal organization control, work and society problems of supervision, scope and character of Administration leadership, leadership tactics, some sociological foundations of leadership, societal influence, evaluation and morals, avenues of success, professional persons in public organizations.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

ACCOUNTING I — ACC 100
A study is made of accounting procedures and the forms of business organization. The balance sheet is first diagnosed, then accounts and their debt and credit components are introduced. Transactions are journalized and posted to accounts. Changes in ownership due to revenue and expenses, income or loss are studied followed by preparation of the income statement. Working papers are used to make year-end adjustments and prepare financial statements. Adjustments include accrued revenues, accrued expenses, revenue and cost apportionment; depreciation and bad debt allowances; preparation of statements includes principles of disclosure and correct presentation. Special journals are introduced and also subsidiary ledgers with general ledger controlling accounts.
The full bookkeeping cycle is performed with individual proprietorships, with partnerships and with limited companies. Formation, running, division of profits and liquidation of partnerships are studied. Formation of limited companies, issue of stock (debentures) payment of cash and stock dividends (not applicable but should be discussed), the issue and method of accounting for and reporting same on financial statements. Accounts receivable is studied in detail including instalment (buying) selling, defaults, repossessions, notes, acceptances, uncollectible accounts and notes, discounting notes and methods of calculating bad debts. Inventory is kept by both periodical and perpetual methods including taking of inventory and methods of pricing. Fixed assets are purchased, classified, depreciated, evaluated, disposed of and traded in. Intangible assets such as patents, copyrights, goodwill are purchased, amortized and recorded. Liabilities are classified and funds raised by issuing, recording, accumulating repayments and finally repaying of bonds.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

ACCOUNTING II — ACC 101
The needs for and nature of accounting principles is stressed including the exact nature of revenue and expenses and the necessity to match them to determine income. Management use of accounting records is continually stressed. Departmentalization and cost distribution is introduced. The need for cost accounting systems is stressed and specific order, direct labour, perpetual inventories, under-absorbed and over-absorbed overhead, process costs, historical costs, standard costs, variance analysis, direct costing, incremental costs, alternative costs, replacement costs and future costs are studied. Financial statements are analyzed using ratios, amounts and percents in vertical and horizontal analysis.
A look is taken at the changing value of the dollar and management problems of comparison with some of the possible methods of price-level adjustment. The concept of materiality is introduced. The changes in working capital studied and the preparation of source and application of funds, statements and their value to management is looked at. Cash-flow statements are prepared and cash forecasting undertaken. Departmental and branch operations are dealt with. Accounting is looked at as an aid to management and budgeting and profit planning are an important section. A look is taken at income tax.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

BASIC PRINCIPLES OF ADVERTISING, SALES AND MERCHANDISING — BC 900
Prerequisites — Persons involved in or hoping to become involved in this intriguing field. A good knowledge of English is necessary.
Course Content — Can be divided into three parts for detailing topics to be covered as follows:
(a) Advertising — analyzing product; print, radio or TV, direct mail, mail order, liaison with merchandising, copy preparation for print media, radio as a powerful selling force in retail, the use of posters, outdoor media.
(b) Selling — Personnel development; the nature of selling process, factors in the selling process, the customer, product knowledge, the approach, the presentation, the close, the creative factor in all aspects of retail selling.
(c) Marketing — As a process, nature of consumption, customer motivation, the overall marketing picture, the retailing structure planning and standardization of products, factors in buying, selection of channels of distribution, price determination and factors in setting prices, sales by marketing function.
Thursday — 7:00 to 10:00 p.m. 90 hrs. Campus K.

ADVERTISING — BC 901

An orientation course looking at advertising from the marketing, communications and consumer viewpoints. Stress will be placed on:
(1) What advertising is, the position of advertising in our society, the psychology behind advertising.
(2) Advertising as it exists in the framework of both marketing and communications.
(3) A comprehensive study of the various types of media.
(4) Advertising planning and management.

Monday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

MARKETING — BC 902

Examination of the principal marketing institutions: agent middleman, wholesalers, retailers, co-operators, consumer research agencies. Intensive study, using case histories of the more important marketing functions; selecting trade channels, packaging, branding, pricing, personal selling, product planning with special emphasis on the integration of these activities.

Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

SALESMANSHIP — BC 903

Covers the theory and practice of effective selling. This course is designed to familiarize the student with the factors necessary for the development of basic persuasive abilities which are necessary in selling, as *well* as in other fields.

Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

DATA PROCESSING MANAGEMENT COURSES

ACCOUNTING A — ACC 900

Introduction of fundamental principles; theory of double entry with assets, liabilities, equity, income and expense accounts. The entire bookkeeping cycle will be described, and financial statement presentation and interpretation will be discussed.
Evening Classes — 3 hours per week; 17 weeks.
Prerequisite: Aptitude Test

Monday and Wednesday — Campus T.

ACCOUNTING B — ACC 901

This course will feature the accounting cycle with emphasis on the accrual concept of accounting. Changes in financial conditions and measurement of business income will be discussed.
Evening Classes — 3 hours per week; 17 weeks.
Prerequisite — Accounting A, or Bookkeeping A and B or Equivalent.

Tuesday and Thursday — Campus T.

COST ACCOUNTING — ACC 902

Development of costing theory; product costing; process costing; planning; control; analysis. The use of Cost Accounting as a managerial tool. Determining the cost of a product using estimated or standard costs.
Evening Classes — 3 hours per week; 8 weeks.

Monday and Wednesday — Campus T.

ACCOUNTING IN AN E.D.P. ENVIRONMENT — ACC 903

Content:
(a) The major Data Processing requirements imposed by Cost Accounting practices;
(b) A study of major Accounting functions in the environment of computerized Data Processing;
(c) The basic principles of internal control in the environment of computerized Data Processing;
(d) Basic principles of performing an audit of a computerized Data Processing system and their effect on the system design; and
(e) A study of management's basic Accounting information and the effect these uses have upon system design, sh.

Evening Classes — 1 semester; 3 hrs. per week; 8 weeks.
Prerequisite: Accounting I, Accounting II, Cost Accounting.

Tuesday and Thursday — Campus T.

STATISTICS — MATH 911

To give the student a general understanding of statistical tools as they are used in making business decisions.
Introduction to statistics; summarizing of data; frequency distributions; statistical descriptions; index numbers; probability; expectation; sampling, and decision making by estimation.
Evening Classes — 3 hours per week; 17 weeks.
Prerequisite — Grade 12 or equivalent.

Tuesday and Thursday — Campus T.

SURVEY OF ADVANCED MATHEMATICS FOR DATA PROCESSING — MATH 912

Content:
1. Mathematical Notations
2. Computational Number System
3. Logic and Set Theory
4. Sequence
5. Enumeration
6. Relations, Functions and Graphs
7. Topics in Mathematics of Finance and Accounting
8. Matrices
9. Differential Calculus
10. Linear Programming
11. Topics in Operations Research

Evening Classes — 3 hours per week; 17 weeks.
Prerequisite — Grade 12 plus MATH 911.

Monday and Wednesday — Campus T.

BASICS OF DIGITAL COMPUTERS — EDP 902

Content: History of computers. Structure of the central processing unit, core storage and some input/output devices. Flowcharting.
Purpose: To dispel popular misconceptions of the computer as a thinking machine. To provide a non-technical introduction to some uses of digital computers.
Evening Classes — 3 hours per week; 17 weeks.
Prerequisite: Basic computer arithmetic (may be taken concurrently).

Tuesday and Thursday — Campus T.

INTRODUCTION TO SYSTEM/360 — EDP 903

Content: Binary and Binary Coded Decimal data representation; indexing; logic operations; floating-point; macros: subroutines; 1/0 operations software; operating systems; multi-programming.
Purpose: To introduce students to the particular system which is prevalent among large commercial computer installations.
Evening Classes — 6 hours per week: 17 weeks.
Prerequisite — EDP 902.

Monday and Wednesday — Campus T.

INTRODUCTION TO PROGRAMMING LANGUAGES — EDP 101

Content: Flowcharting exercises involving complex logic. Emphasis on modular programming. Introduction to COBOL, FORTRAN, RPG ASSEMBLER, etc. Coding exercises in each. Use of subroutines in a language different from the main-line language. Discussion of how the relative efficiency of languages varies with the nature of the task.

Purpose: To introduce all the languages used with system/360. To acquaint students with pertinent criteria for selecting the language best suited to a particular application.
Evening Classes — 6 hours per week; 17 weeks.
Prerequisite — Completion of EDP 903 (may be taken concurrently).

Tuesday and Thursday — Campus T.

SOFTWARE TECHNIQUES AND APPLICATION — EDP 904

Content: Instruction in the machine language for a specific computer. Exercises in writing utilities for conversion between media and for sorting a small file having a 5 byte key. Design of a symbolic language having about 12 instructions, and writing a processor programme to translate the language into executable form.
Purpose: To develop an awareness of the skills required to write programmes in machine language; to acquaint students with some of the features of various utility programmes and meta programming systems.
Evening Classes — 3 hours per week; 17 weeks.
Prerequisite — Completion of course EDP 101.

Monday and Wednesday — Campus T.

DATA PROCESSING MANAGEMENT — EDP 905

Content: General management guidelines will be presented to the class for group discussions. Specific guidelines for Data Processing Management will be tested with situational case problems calling for managerial decisions. Special attention will be given to problems related to real time processing and conversion to another computer system.
Purpose: to provide enrichment material for students having some experience in Electronic Data Processing. Specifically, to assist students preparing for the examination for the Certificate in Data Processing.
Evening Classes — 3 hours per week; 17 weeks.
Prerequisite: Completion of course EDP 101, a course in communication skills and experience related to Electronic Data Processing.

Tuesday and Thursday — Campus T.

ELECTRICAL/ELECTRONIC TECHNOLOGY

ELECTRICAL CONSTRUCTION Part I — EL 10
Prerequisite — Grade 10 or the equivalent.
Course Content — Ohm's Law, series circuits, combination circuits, two-wire distribution, line loss, power efficiency, wire calculations, batteries, magnetism, electro-magnetism, induction, three-wire distribution, Hydro Electric Power Commission Regulations, shop projects.
Monday and Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

ELECTRICAL CONSTRUCTION Part II — EL 20
Prerequisite — EL 10 or the equivalent.
Course Content — electro-magnetism, induction, DC generators, generator set-up and operation, DC motor, motor operation and controls, Hydro Electric Power Commission regulations, shop projects.
Tuesday and Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

ELECTRICAL CONSTRUCTION Part III — EL 30
Prerequisite — EL 20 or the equivalent.
Course Content — A.C. Fundamental vectors, single phase transformers, three-phase motors, three-phase transformers, auto transformers, Hydro Electric Power Commission regulations, shop projects.
Tuesday and Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

ELECTRICAL APPRENTICE REVIEW — EL 900
This is a special course for those apprentices who are in their final term and who expect to write the qualifying examination sometime within the year.
The course will endeavour to cover theory, code and equipment over the entire area of apprentice training.
Monday and Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

ESTIMATING FOR THE ELECTRICAL TRADE — EL 901
Prerequisite — Journeyman electrician or equivalent.
Course Content — plan analysis, take-off procedure, transferring and pricing, labour units, installation only projects, adjustments for working conditions, cable poles, pull boxes, labour cost variables, non productive labour, incidental and direct job cost, electric heating loads.
Monday and Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

HYDRO ELECTRIC POWER COMMISSION REGULATIONS — EL 902
Prerequisite — Applicants must be at least fourth year apprentices.
Course Content — authority, interpretations, use of the index, application of regulations.
Tuesday and Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

ELECTRICAL DRAFTING (Basic) — EL 903
Course Content — Lettering, use of instruments, linework, orthographic projection, dimensioning, sections, architect scale, isometric projection, sketching.
Electrical and electronic symbols, basic electrical circuit diagrams, transformers, relays, riser and block diagrams, residential wiring, illumination and electric heating.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

LIGHTING FUNDAMENTALS — EL 904
Course Content — The course to begin with nature of light, the eye and relationship between light and sight, lighting terms, laws and control as well as light measurement and meters. A discussion of light sources, its production and characteristics and including incandescent, gaseous discharge and fluorescent lamps. Luminaire data to consist of general, photometric, electrical and mechanical characteristics. Illumination design including zonal-cavity calculations for industrial buildings, offices and schools, store lighting, exterior and residential lighting. Cost analysis to include lamp economics, lighting system ownership and operating costs.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

ELECTRICAL FUNDAMENTALS — EL 905
Prerequisite — Math 100
Basic electrical concepts; simple D.C. circuits; power; magnetism, electromagnetism; magnetic circuits; D.C. measuring instruments; A.C. measuring instruments electrical measurements; induction; capacity; alternating current, resistance, impedance, power in A.C. circuits.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

ALTERNATING CURRENT CIRCUITS — EL 906
Prerequisite — EL905 and Math 200.
Inductance; capacitance; alternating current fundamentals; R, L, and C in A.C. circuits; series A.C. circuits; parellel A.C. circuits; series resonance parellel resonance; vector loci analysis; network theorms; coupled circuits and transformers; polyphase circuits non-sinusoidal waves.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus K.
(Subject to student approval this course can be run on Saturday A.M.)

ELECTRICAL MEASUREMENTS — EL 907
Prerequisite — EL 905.
Course Content — principles of measurement, the D'Arsonval Meter Movement, D.C. ammeters, D.C. voltmeters, A.C. voltmeters and ammeters, power measurements. Instrument transformer use — the ohmmeter, multimeters — vacuum tube voltmeters — secondary standards — precision measurement of resistance — voltage and current — A.C. bridge circuits, oscilloscopes — oscilloscope accessories — audio frequency and signal generators, magnetic measurements — transducers — indicating and registering equipment.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

POWER SYSTEMS — EL 908
Prerequisite — EL 906.
Course Content — power transmission and control, hydraulic generating stations, thermal generating stations, economics of power systems. Single diagrams, generating and transformer stations, transmission and distribution systems, protective relaying, power line carrier communications, metering.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

INDUSTRIAL ELECTRONIC CONTROLS Part I — EL 40A
Prerequisite — Applicants must be fourth year apprentices, journeymen electricians, or maintenance electricians.
Course Content — Review of basic principles, thorough study of AC theory, vector analysis, introduction to electronics and shopwork.
Instruction in this course will consist of 65% theory and 35% shopwork.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

INDUSTRIAL ELECTRONIC CONTROLS Part II — EL 40B
Prerequisite — Applicants must be fourth year apprentices, journeyman electricians, or maintenance electricians who have successfully completed Part I.
Course Content — types of electronic tubes, amplifiers, tube circuitry and application, phanotrons, thyratrons and shopwork.
Instruction will consist of 40% theory and 60% shopwork.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

INDUSTRIAL ELECTRONIC CONTROLS Part III — EL 40C
Prerequisite — EL 40B.
Course Content — power supplies, principle of timers, welding timers, current control with gas tubes, thyratron contactors, ignitron contactors, phase shifting, welder heat control, resistance welders, sequence weld timers, synchronous weld timers, shopwork.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

INDUSTRIAL ELECTRONIC CONTROLS Part IV — EL 40D
Prerequisite — EL 40C.
Course Content — photoelectric relays, heat controls, light dimming controls, principle of speed and voltage regulators, speed regulation for small DC motors, voltage control for DC and AC generators, single phase and poly-phase power rectifiers, oscillators, inverters, induction heaters, dielectric heaters, high speed light relays, register control servomechanisms, shopwork.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

ELECTRONIC FUNDAMENTALS Part I — ELTC 900
Course Content — DC theory, electron theory, current flow, magnetism, electromagnetism, motor action, transformers, capacitors, AC theory, resonance, impedance, bandwidth, tubes, diodes, triodes, pentodes.
Lab — suitable series of laboratory experiments correlated to theory.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

ELECTRONIC FUNDAMENTALS Part II (Radio) — ELTC 901
Prerequisite — successful completion of ELTC 900
Course Content — Power supplies, audio frequency output stages, detection, intermediate frequency amplifiers, oscillators, converters, RF amplifiers, superheterodyne receivers.
Lab — Suitable series of lab experiments correlated to theory as well as construction and test measurements on superheterodyne receivers.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

ELECTRONIC FUNDAMENTALS Part III (Television) — ELTC 902
Prerequisite — successful completion of ELTC 901.
Course Content — Principle of TV transmission and reception, scanning, cathode ray tube, deflection circuits, multivibrator, blocking osc. deflection coils and transformers, damper circuit, high voltage circuits, synchronization circuits.
Lab — suitable series of lab experiments correlated to theory.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

ELECTRONIC FUNDAMENTALS Part IV (Television) — ELTC 903

Prerequisite — successful completion of ELTC 902.
Course Content — video amplifiers, picture intermediate frequency amplifiers, alignment of TV intermediate frequency amplifiers, A.G.C. circuits, sound intermediate frequency amplifiers, power supplies, tuners, dynamic test points in TV receivers, trouble shooting.
Lab — suitable series of lab experiments correlated to theory.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

ELECTRONIC FUNDAMENTALS (Transistors) — ELTC 904

Prerequisite — thorough knowledge of electronic fundamentals and radio receiver circuitry.
Course Content — introduction to modern electron theory, semi-conductor physics, junction transistors, transistor characteristics, transistor amplifiers, transistor oscillators, transistor radio receivers, transistors in television, receivers, transistors in electronic circuits, transistor developments, servicing transistor circuits. Laboratory work will form part of the course.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

ELECTRONIC CIRCUITS — ELTC 905

Prerequisite — ELTC 904.
Course Content — transformer and transformer-coupled amplifiers, resistance-capacitance coupled amplifiers, special amplifiers, push-pull and phase inversion, Class C amplifiers, feedback, feedback oscillators, negative-resistance oscillators, miscellaneous sine-wave oscillators, modulation, detection, audio elements.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

DIGITAL COMPUTER PRINCIPLES — ELTC 906

Prerequisite — ELTC 904 or equivalent and background knowledge of transistor theory.
Course Content — Computer number systems and codes, diode and transistor logic circuits, transistor switching circuits, register circuits, Boolean algebra, arithmetic units, memory systems, input and output devices, the central processing unit.
Laboratory — Logic circuits, transistor flip-flops, counters, shift registers, Boolean logic circuits, the Philco trainer.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

INDUSTRIAL ELECTRONICS — ELTC 907

Prerequisite — ELTC 905.
Course Content — analysis of electronic circuits of modern controls — special circuit designs incorporating semiconductors, vacuum tubes, electronic sensors, and magnetic devices. Emphasis should be placed on industrial semiconductor applications. Special applications: silicon-controlled rectifier (SCR) field supplies, ultrasonic circuits; welders, precipitators, and industrial heaters.
Text — to be announced.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

ELECTRONIC SYSTEMS I — ELTC 908

Prerequisite — Pulse Circuits (ATEC)
Course Content — A. monochrome television systems, methods of visual representation, scanning and synchronization, analysis of one frame, synchronization and sweep circuits, cathode-ray tubes, television transmission and reception, the video signal, video-amplifiers — wide band amplifiers, television cameras.
B. the oscilloscope: input circuits, plate loaded amplifiers, delay lines and distributed amplifiers, time-base generators, horizontal defection systems, block diagrams.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

COLOUR TELEVISION — ELTC 909

Prerequisite — sound knowledge of black and white television circuitry. There will be a short qualifying test at the time of registration.
Course Content — principles of the colour TV system, colour receiver circuits: RF and IF circuits, video, sync and voltage supply circuits, band pass amplifier colour sync and colour killer circuits, colour demodulation, matrix section, colour picture tube and associated circuits — servicing the colour receiver, set up procedure, aligning the colour receiver, trouble shooting. Current models of receivers will be discussed and demonstrated.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

TRANSISTORIZED COLOUR TELEVISION COURSE — ELTC 910

This course is designed to help make the practicing television serviceman more proficient in the servicing of transistorized equipment and especially transistorized colour television. The course has been approved by the E.I.A. and the industry as a whole supports it by sending technical representatives to demonstrate the latest equipment. This course is designed so that one-half of the weekly period is devoted to theory and the other half to laboratory work or to demonstrations by manufacturers' representatives.
Course Content — brief description of the operation of the eye; theory and colorimetry; colour PT and convergence; N.T.S.C. colour television systems — transmission, transistors including the various types: circuit configurations and techniques of servicing; transistor colour receiver circuits.
Time: Wednesday or Thursday morning, 8:00 a.m. to 12:00 noon. Campus T.
Fee: $56.00.
Course Starting Dates: Wednesday, November 4, 1970 and Thursday, November 5, 1970.

ADVANCED TELEVISION SERVICE TECHNIQUES — ELTC 911

Prerequisite — Since technicians who successfully complete this course will be accredited by the Electronic Industries Association, applicants must be engaged full time in television servicing. Accordingly there will be a short qualifying test at registration.
Course Content — This course deals with modern TV fault-finding techniques based on increased knowledge of circuit operation and proper use of test equipment.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

VIDEO TAPE RECORDERS THEORY AND MAINTENANCE — ELTC 912

Prerequisite — fundamental knowledge of electronics.
Course Content — theory magnetic recording, sound waves, electrical waves, electromagnets, tape magnetization, recording process, play back process, scanning systems (properties), single track, multitrack, vertical track, slant (helical), signal modulation system, operation pre-emphasis, low pass filter, D.C. restoration, white clipper, limiter, differentiating F.M. signal, de-emphasis, servo-operation.
Maintenance demonstrations of specific tape recorders by company representatives of Sony, Ampex and others as time permits.
Tuesday and Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus T.
The following courses are being offered by the George Brown College under the sponsorship of the Cable Television Association:

CABLE TELEVISION PRACTICE (Basic) — ELTC 913

~~Prerequisite — Grade X and ELTC 900 and ELTC 901.~~
Course Content —

1. Introduction to television. Conversion of light to an electronic signal. Use of the sync. signal and derivation of composite waveform. Comparison of black and white and colour. Modulation of the RF carrier. Channel allocations. Propagation and antennas. Elements of the receiver and reproduction.
2. Introduction to cable distribution. The basics of antenna site location, system layout, amplifiers, splitters, tap-off devices, subscriber's drops.
3. Co-axial cable characteristics, attenuation, impedance, loop resistance, requirements for impedance matching.
4. Decibels, VSWR, and return loss, and reflections.
5. Amplifiers, general description, tube type, transistorized, wideband, single-channel, main line, distribution and line extender. Power feed arrangements for transistorized amplifiers.
6. Line construction techniques — clearances, safety procedures, cable handling, connector splices, etc.
7. Tap-offs, and subscriber's drop and apartment house wiring.
8. Installation of amplifier housings, amplifiers and passive devices.
9. Service calls and customer relations.
10. Introduction to fault-finding using field strength meter and test TV set.
11. Fault diagnosis — adjacent channel and co-channel interference, cross-modulation, ghosts and noise.
12. Transistorized equipment and cable powering — basic do's and don'ts.

Monday and Wednesday — 7:00 to 10:00 p.m. 60 hrs. 2 nights per week. Campus T.

CABLE TELEVISION PRACTICE (Advanced) — ELTC 914
(commences Spring 1971)

Prerequisite — basic Cable Television Practice ELTC 913 or recommendation of employer.
Course Content —

1. Review of the television system from transmitter to receiver, modulation, demodulation, waveforms, propagation, reception.
2. Co-axial cable characteristics, decibels, VSWR, impedance matching.
3. Amplifiers, types and application.
4. System design, cascading, noise, intermodulation, levels, equalisation, AGC, etc.
5. System layout, mapping, liaison with utilities, etc.
6. System construction, cable acceptance, set-up and testing.
7. Tube amplifiers — single channel, tuned broadband, distributed line, with explanations of typical circuits in detail.
8. Basic transistor theory and application to typical amplifiers.
9. Amplifier alignment procedure.
10. Head-end equipment — antennas, pre-amplifiers, channel commanders, converters, modulators and F.M. equipment.
11. Subscriber's taps — pros and cons of various methods.
12. Review of cable construction techniques, including underground distribution.
13. System testing and maintenance including use of sweep and marker generator, detector and scope, pads and delay lines.
14. Noise — determining signal to noise ratio of system and measuring noise figures.
15. Intermodulation distortion — causes and measurement techniques.
16. Line testing and fault finding including system radiation, interference originating at antennas and use of new techniques including TDR and spectrum analyser.

Tuesday and Thursday — 7:00 to 10:00 p.m. 60 hrs. 2 nights per week. Campus T.

INTRODUCTORY ETV AND BROADCAST MAINTENANCE — ELTC 915

This course is recommended for technicians interested in furthering their knowledge of television installation, maintenance and, to a acertain degree, operation. The subject matter of the course is designed to help those technicians with a good basic electronic background who are interested in, or who are engaged in the television discipline as applicable to TV Broadcast stations, ETV (Educational Television), CATV (Community Antenna TV), CCTV (Community Cable TV).

Course Content — The subject matter includes audio and visual systems, synchronization principles (b & w and white), studio and telecine cameras, measurement techniques and procedures. A field trip to a major TV Center will be scheduled and workshops at the end of the course will be conducted.

Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus T.

ENGINEERING TECHNOLOGY

INSTRUMENTATION

The Instrumentation Department will offer a series of extension courses to enable those employed in the instrumentation field to upgrade their knowledge. Extension courses may be used as credits towards the certificate which is obtained through full-time study. To enable students to plan their studies, the following courses will be offered during the 1970/71 and 1971/72 sessions.

	1970/71	1971/72
Instrumentation INST 130/131	*	*
Basic Instrumentation Electronics INST 900	*	*
Computer Control Principles I INST 203	—	*
Measuring Principles I INST 100	*	—
Automatic Control Principles II INST 300	*	—
Telemetering INST 104	—	*
Final Control Elements INST 201	—	*
Automatic Control Principles I INST 200	—	*
Electronic Instrumentation INST 101	—	*
Instrumentation Test Procedures INST 901	—	*
Computer Control Principles II INST 301	—	*

INSTRUMENTATION — INST 130/131

Prerequisite — Applicant should be employed in Instrumentation or an associated field.

Course Content — Applied physics, pneumatic and electronic instruments, control theory and systems application, final control elements including valve sizing. Analysis equipment including speed, pH, humidity, chromatography etc.

Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

BASIC INSTRUMENTATION ELECTRONICS — INST 900

This course is designed primarily for pneumatic instrumentation personnel who wish to study the basic fundamentals of electronic instrumentation. The course consists of lectures, experiments and practical applications.

Course Content — Ohm's Law, series and parallel circuits, test instruments, basic electron tube and transistor theory, thermocouples, potentiometric devices, wheatstone bridge, radiation and optical pyrometry, calibration and troubleshooting techniques.

Text to be announced.

Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

COMPUTER CONTROL PRINCIPLES I — INST 203

Prerequisite — Mathematics and electronic background.

Course Content — Introduction to the binary concept, principles of digital logic, Boolean algebra, the rules for logical manipulation, digital subsystems, digital systems.

Text — to be announced.

Monday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

MEASURING PRINCIPLES I — INST 100

Course Content — C.G.S., M.K.S., F.P.S., systems of units, dimensional analysis; theory and construction of devices, mechanical — pneumatic methods for the measurement of pressure, vacuum, temperature, flow, viscosity, specific gravity, level, etc.

Text — to be announced.

Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

AUTOMATIC CONTROL PRINCIPLES II — INST 300

Prerequisite — Automatic Control Principles I — INST 200.

Course Content — Control considerations; exponential lag, step response and frequency response; dead time lag, step and frequency response. Process combinations, frequency response and step response; controller forms; process and controller combination. Elementary system stability, the closed loop, disturbances in the closed loop, control system design.

Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

NUCLEAR REACTOR TECHNOLOGY — INST 902 X

This is a general introductory course. The emphasis is on the safety aspects of operating a nuclear reactor. It should interest the general public as well as those directly involved with nuclear power.

Prerequisite — Basic knowledge of physics.

Course Content — Energy conversion, nuclear terminology, nuclear energy; nuclear reactors and other uses of nuclear energy; radio isotopes; fuel and fuel management; radiation theory; sources of radiation in a nuclear generating station; radiation exposure; effects of radiation on materials; biological effects of radiation; radiation measurement; contamination detection, measurement and control; disposal of radioactive waste.

Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

WELDING I — WELD 900

This is a general course designed to teach the fundamentals of oxy-acetylene and electric arc welding.
Prerequisite — Ability to understand English well enough to absorb instruction.
Course Content — Basic principles of oxy-acetylene and electric arc welding, safety precautions, types and uses of various oxy-acetylene flames, types and uses of various rods and electrodes, braze welding, use of fluxes, explanation of arc welding machine controls, practice welding in the flat position using oxy-acetylene and electric arc equipment.
Choice of Tuesday or Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

WELDING II — WELD 901

This is a general course designed to supplement WELD 900.
Prerequisite — Successful completion of Welding I or equivalent experience.
Course Content — Theory of alternating and direct current, polarity, arc blow, shielded arc electrodes, classification, colour markings and selection of electrodes. Edge preparations, joint design, weld faults, manufacture and storage of oxygen and acetylene, basic welding metallurgy, control of distortion, testing of welds. Practice welding in all positions using oxy-acetylene and electric arc equipment.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

WELDING PRE-CERTIFICATION "A" (C.W.B.) — WELD 902

This is a course designed to improve the technical skills of candidates who are preparing to take the Canadian Welding Bureau all position metallic arc qualification test.
Prerequisite — Successful completion of WELD 900 and WELD 901 or equivalent experience.
Course Content — Safety precautions, function of electrodes coatings, electrode selection and application. Edge preparation, weld faults, welding techniques, setting up equipment. Testing of welds and operators, codes. Practice welding of fillet and butt joints in all positions using cellulose and low hydrogen electrodes.
Note: The College is *not* authorized to issue qualification cards on behalf of the Canadian Welding Bureau. A certificate from The George Brown College will be issued upon successful completion of this program.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus K.
Fee — $50.00.

WELDING PRE-CERTIFICATION "B" (DEPARTMENT OF LABOUR) — WELD 903

This is a course designed to improve the technical skills of candidates who are preparing to take the Department of Labour all position metallic arc qualification test.
Prerequisite — Successful completion of WELD 900 and WELD 901 or equivalent experience.
Course Content — Safety precautions, function of electrode coatings, electrode selection and application. Edge preparation, weld faults, welding techniques, setting up of equipment. Testing of welds and operators, codes. Practice welding of butt joints in all positions using cellulose and low hydrogen electrodes. Root and face guided bend test specimens will be taken from butt welds in all positions.
NOTE: Arrangements can be made to have the final practical test inspected by the Department of Labour who will issue the appropriate certificate if the test conforms to code requirements. A slight additional fee is involved. In addition, George Brown College certification will be issued to all successful candidates.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus K.
Fee — $50.00.

PIPE WELDING "A" — Uphill Arc Welding — WELD 904

This is a course designed to teach the fundamentals of the uphill method of pipe welding using arc welding equipment and low hydrogen arc welding electrodes.
Prerequisite — (1) Successful completion of WELD 900 and WELD 901 and Welding Pre-Certification WELD 902 or WELD 903 OR (2) Department of Labour or Canadian Welding Bureau certification for all positions.
Course Content — Pipe specifications, preparation of pipe, recommended fits and tolerances. Electrode selection and classification. Testing of welds and operators, codes. Practice welding using the uphill welding technique and low hydrogen arc welding electrodes.
NOTE: Arrangements can be made to have the final practical test inspected by the Department of Labour who will issue the appropriate certification if the test conforms to code requirements. A slight additional fee is involved. In addition, George Brown College certification will be issued to all successful candidates.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.
Fee — $50.00.

PIPE WELDING "B" — Downhill Arc Welding — WELD 905

This course is designed to teach the fundamentals of the downhill method of pipe welding using arc welding equipment and cellulose arc welding electrodes.
Prerequisite — (1) Successful completion of WELD 900 and WELD 901 and Welding Pre-Certification WELD 902 or WELD 903 OR (2) Department of Labour or Canadian Welding Bureau certification for all positions.
Course Content — Pipe specifications, preparation of pipe, recommended fits and tolerances. Electrode selection and classification. Testing of welds and operators, codes. Practice welding using the downhill welding technique and cellulose arc welding electrodes.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus K.
Fee — $50.00.

PIPE WELDING "C" — T.I.G. WELDING (HELIARC) — WELD 906

This is a course designed to teach the fundamentals of the uphill method of pipe welding using the T.I.G. process for the root pass and low hydrogen electrodes on succeeding passes.
Prerequisite — (1) Successful completion of WELD 900, WELD 901 and WELD 903 OR (2) Possession of Department of Labour or Canadian Welding Bureau certification for all positions and proficiency in use of low hydrogen electrodes.
Course Content — Pipe specifications, preparation of pipe, recommended fits and tolerances. Electrode classification and selection. Testing of welds and operators, codes. Setting up and adjusting T.I.G. equipment. Tungsten electrodes, shielding gases. Practice welding using the T.I.G. process for the root pass and low hydrogen electrodes for succeeding passes.
NOTE: Arrangements can be made to have the final practical test inspected by the Department of Labour who will issue the appropriate certification of the test conforms to code requirements. A slight additional fee is involved. In addition, George Brown College certification will be issued to all successful candidates.
Wednesday 7:00 to 10:00 p.m. 60 hrs. Campus K.
Fee — $50.00.

PIPE WELDING "D" — OXY-ACETYLENE — WELD 907

This is a course designed to teach the fundamentals of pipe welding using the oxy-acetylene process.
Prerequisite — (1) Successful completion of WELD 900 and WELD 901 OR (2) A minimum of six months continuous oxy-acetylene welding experience.
Course Content — Pipe specifications, pipe fittings, preparation of pipe. Types and sizes of welding rods, flame adjustments, safety precautions. Layout of pipe and templates. Testing of welds and operators, codes. Practice welding of 2", 4" and 6" diameter pipe in all positions, fabrication of pipe branches, manual oxy-acetylene cutting.
NOTE: Arrangements can be made to have the final practical test inspected by the Department of Labour who will issue the appropriate certification if the test conforms to code requirements. A slight additional fee is involved. In addition, George Brown College certification will be issued to all successful candidates.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus K.
Fee — $50.00.

WELDING — MAINTENANCE — WELD 908

This is a course designed to teach the fundamentals of oxy-acetylene and electric arc welding and is specially designed to meet the needs of maintenance personnel.
Prerequisite — A basic knowledge of welding would be an asset.
Course Content — Maintenance of oxy-acetylene and electric arc auxiliary equipment, safety precautions. Techniques involved in joining of a variety of metals, preheat and post-heat procedures. Demonstrations and practice in the joining of cast iron, stainless steel, and aluminum, silver brazing, hard facing and building up, oxy-acetylene and arc cutting, welding of tubing and pipe to plate, positional welding.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

METALWORK — ORNAMENTAL — WELD 909

This is a course designed for the hobbyist, and provides a general knowledge of the machines, tools, and materials essential to the art of ornamental iron work.
Course Content — Fundamentals of welding, safety precautions, selection of materials, fundamentals of design. Use of hand tools, methods of twisting, forming and fastening metals, forming of scrolls. Surface decoration, surface finishing, use of metal working equipment, Practical shop work consisting of the fabrication of various types of ornamental metal projects.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

INERT GAS WELDING (HELIARC) — GENERAL — WELD 910

This is a course designed to teach the fundamentals of manual tungsten inert gas (T.I.G.) and semi-automatic metal inert gas (M.I.G.) welding to persons who are qualified oxy-acetylene or electric arc welders.
Prerequisite — Successful completion of WELD 900 and WELD 901 or a minimum of six months continuous experience in oxy-acetylene or arc welding.
Course Content — Setting up and adjusting T.I.G. and M.I.G. equipment, types, sizes and uses of tungsten electrodes, types and sizes of filler wires, shielding gases, practice welding of mild steel, stainless steel, and aluminum using T.I.G. and M.I.G. equipment.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus K.
Fee — $50.00.

WELD TESTING AND INSPECTION — WELD 911

This course is designed to teach the basic fundamentals of weld testing and inspection, and consists of lectures, demonstrations, and laboratory work. Candidates may supplement this course with Blueprint Reading for the Welding Trade.
Prerequisite — Candidates should have a general knowledge of welding.
Course Content — Inspection duties, welding terms and processes. Qualification tests for welders. Demonstrations of incorrect welding techniques using various welding processes to illustrate the development of weld faults, heat-treatment. Preparation and testing of weld specimens using the following standard destructive and non-destructive methods: visual, tensile, hardness, fracture, bend, ultrasonic, magnetic particle, microscopic, fluorescent penetrant and dye penetrant. Interpretation of radiographs.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

CANADIAN WELDING BUREAU — ALUMINUM WELDING — WELD 912

This course is designed to teach the manual and semi-automatic welding of aluminum.
Prerequisite — Applicants must be enrolled in Canadian Welding Bureau Aluminum Welding Correspondence Course.
Tungsten, shielding gases, welding techniques, filler wires. Shop practice using manual and semi-automatic equipment on aluminum.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.
Fee — To be established by C.W.B.

WELDING TESTS

The Welding Department operates a testing program as a service to welders wishing to update their qualifications by taking welding tests leading to certification. As an additional service, practice sessions prior to testing can be arranged if required. All enquiries should be directed to the Assistant Chairman, Welding Department.

TECHNICAL DRAWING I — DR 100

An introduction to drawing — office practice. It includes basic instruction about instruments, lettering lines, applied geometry, third-angle orthographic projection, isometric projections, freehand sketching, conventions, sections, dimensioning tolerances, simple working drawings, fasteners, gearing, transmission units, pipe fittings and layouts; electrical drawing of simple and the more intricate circuitry, electrical symbols.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

TECHNICAL DRAWING II — DR 903

This course is a continuation of Technical Drawing I. The individual topics are treated in greater depth.
Prerequisite — DR 100 or equivalent.
Course Content — Bearings, types, materials, lubrication, selection from manufacturers' catalogues. Cam design, motion diagrams, types of motion, cam layouts, types of followers, detail drawing and applications. The use of catalogues for selecting fasteners, fittings, springs and other standard components. Production dimensioning techniques, unilateral and bilateral tolerances, concentricity, machine fits, dimensioning problems. Engineering materials, ferrous and non-ferrous metals, plastics, rubber, fibre, production methods, relative costs; gauges and gauge design, basic principles, snap, ring, length, and plug types. Industrial drawing applications, design and layout drawings, detail drawings, sub-assemblies and assembly drawings.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

PLATE AND STRUCTURAL LAYOUT — DR 134

Course Content — Plane geometrical constructions and terminology, orthographic projection, principal and auxiliary views, dimensioning systems, basic principles of descriptive geometry, true length of lines, true shape of planes, true angles, revolutions and intersection of planes, developments by parallel line, radial line and triangulation methods, structural shapes, symbols and specifications, layout and development of industrial projects involving plate and structural shapes, fabricating methods, shop notes and bills of material.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

BLUEPRINT READING FOR THE WELDING TRADE — DR 147

Course Content — Orthographic three view projection, linework, notes, dimensioning principles, working drawings, drawing to scale, auxiliary views, technical freehand sketching. A study of welded detail and assembly drawings and industrial blueprints, shop notes, small tool operations, fabrication specifications. Welding symbols as specified by the Canadian Welding Society. Structural shapes and symbols, plate specifications, bills of material, conventional practices, sectional views, blueprint reading methods.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

BLUEPRINT READING FOR MACHINE TRADES — DR 130

The aim of this course is to provide tradesmen with a basic understanding of blueprint reading.
Course Content — Freehand sketching: Freehand sketching of simple and complex objects using multiview, isometric and oblique projections. Blueprint reading: Study of methods of representation of objects including orthographic multiview, isometric and oblique projection. Dimensions and tolerances, notes and specifications, surface finish. Auxiliary views, sections. Threads and fasteners. Gears and cams, simple developments. Detail assembly drawings. Methods of reproduction of drawings.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

PROCESS PIPE DRAFTING — DR 902

For people who wish to become familiar with the techniques of process pipe drafting.
Prerequisite — Basic knowledge of Mechanical Drafting.
Course Content — Pipe drawing using single and double line symbols, orthographic, oblique, isometric and developed methods of representation. Pipes, values, standard sizes, materials and methods of fabrication. Schematic and flow diagrams, simplified piping layout.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

ULTRASONIC TESTING — TEST 900

This course is offered in conjunction with the American Society of Non-destructive Testing.
Course Content — Introduction and testing philosophy. Ultrasonic testing principles with description of procedures. Applications and capabilities, equipment, testing techniques. Calibrating testing units, calibrating transducers. Comparison and selection of N.D.T. processes.
Saturday — 9:00 to 12:00 noon. 30 hrs. Campus CL.

NOISE REDUCTION TECHNIQUES — TEST 901 X

PART I

This course will cover theory of noise reduction and will include some demonstrations of noise and noise measurement. It should be of interest to architects, municipal planners and municipal and industrial personnel who are concerned with noise control. Part I is a prerequisite for those wishing to take Part II of the course.
Course Content — History of noise control, definitions. Decibel calculation. Noise rating methods and rating curve. Fletcher-Munson curves, equal loudness curves, noise criteria curves, sound power calculations. Frequency analysis, spectrum level, speech interference, masking. Physiological description of noise and hearing loss.

NOISE REDUCTION TECHNIQUES — TEST 901 X

PART II

This part of the course is practical in nature. Six experiments will be performed by the student to acquaint him with acoustic analysis instruments and apparatus.
Prerequisite — Part I
Course Content — Measurement and analysis of fan noise. Analysis of sound trap. Measurement of room characteristics. Measurement of absorption characteristics with impedance tube. Measurement of equipment produced sound power in semi-reverberant room to A.S.A. standard. Narrow band frequency analysis for detection of machine condition.
Monday — 7:00 to 10:00 p.m. 30 hrs. Campus CL.

TOOL DESIGN EVENING CLASS PROGRAM

An evening student may study individual courses or he may complete a prescribed program of courses as credits toward a diploma as a Tool Design Technician. Details of the program are shown in the 1970/71 day calendar and in the Tool Design Technician brochure. Some credits may be granted to mature students on the basis of previous education or experience. Enquiries should be made at the Registrar's Office, 37 Dartnell Avenue.
For information purposes only, the outlines of Tool Design courses are shown on the following pages. To enable prospective students to plan their own study programs, the following courses will be offered during the sessions shown:

	1970/71	1971/72
Jig and Fixture Design I TD 100	*	*
Jig and Fixture Design II TD 101	*	—
Jig and Fixture Design III TD 102	—	*
Jig and Fixture Design IX TD 103	—	*
Die Design I TD 200	*	*
Die Design II TD 201	*	*
Die Design III TD 202	—	*
Die Design — Moulds TD 203	*	*
Process Engineering TD 204	—	*

TOOL DESIGN COURSES

Prerequisite — Grade XII, either machine shop or drafting option or equivalent industrial experience.

JIG AND FIXTURE DESIGN I — TD 100

Freehand sketching and machine drafting of basic jig and fixture designs, emphasizing current production methods and organization.
Tuesday — 7:00 to 10:00 p.m. 90 hrs. Campus CL.

JIG AND FIXTURE DESIGN II — TD 101

Freehand sketching and machine drafting of advanced jig and fixture designs, emphasizing current production methods and organization.
Thursday — 7:00 to 10:00 p.m. 90 hrs. Campus CL.

DIE DESIGN I — TD 200

Freehand sketching and machine drafting of basic blanking, piercing, cut-off and bending dies.
Thursday — 7:00 to 10:00 p.m. 90 hrs. Campus CL.

DIE DESIGN II — TD 201

Freehand sketching and machine drafting of advanced blanking, piercing and bending dies. Introduction to basic draw dies.
Tuesday — 7:00 to 10:00 p.m. 90 hrs. Campus CL.

DIE DESIGN — MOULDS — TD 203

Freehand sketching and machine drafting of plastic mould and impact extrusion die designs.
Monday — 7:00 to 10:00 p.m. 90 hrs. Campus CL.

PRODUCTION AND INVENTORY CONTROL I — TD-900

This course is offered in co-operation with the Canadian Association for Production and Inventory Control. The objectives of the course are:

(a) to acquaint those who have recently entered this field with the fundamental techniques being applied in this area of management;
(b) to emphasize the practical application of techniques that have proven successful in a number of companies representing a wide cross-section of industry;
(c) to offer an insight into this field for supervisors engaged in areas of management related to production and inventory control.

The lecturers are practitioners or consultants in production and inventory control. Each session will centre around participation by those enrolled in the course. Registration will be limited to encourage discussion among the students and with the instructor at each session. Additional experts will be called upon to assist in the lecturing.

PRODUCTION CONTROL

Course Content — Introduction to production and inventory. What is expected of production control? Quotas, forecasts and budgets; long range planning, short range planning; processing the production order, control techniques, cycle time control, case study, reporting and follow-up, data processing and production control.

INVENTORY CONTROL

Course Content — Principles and functions of inventory control. Identification and classification; stock records cards ad their use, control of inventory, policy. Re-ordering systems, case study exercise, practical applications, data processing and inventory control, summation and test, what management requires of an inventory control system.
Tuesday — 7:15 to 9:45 p.m. 70 hrs. Campus CL.
Fee — $40.00.

WORKSHOP TECHNOLOGY — MACH 110

Prerequisite — Grade XII
Course Content — Review of basic manufacturing processes, metal cutting, precision measurement and inspection; centre, capstan and turret lathes, horizontal and vertical mills, surface and cylindrical grinders, jig boring, broaching, die-sinking, centerless grinding, electro-discharge and electro-chemical machinery numerical control.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

BENCHWORK — MACH 140

This program is designed for people who wish to acquire basic skills and knowledge in bench-work, layout, measurement, drill press, bandsaw, and basic heat treatment.
Course Content — The use and care of hand tools such as hammers, files, hacksaws, and scribers, the application and care of precision instruments, including micrometers, vernier calipers and indicators. Layout work. General construction and operation of the drill press and bandsaw, safety precautions, methods of holding work on a drill press, drilling, sharpening, cutting lubricants, selecting and welding bandsaw blades, band filing. Forging, basic heat treatment, operation of furnace and quenching medium.
Offered in 1971/72. Campus CL.

LATHEWORK 1 — MACH 141A

This program is designed for people who wish to acquire basic skills and knowledge in the operation of a lathe.
Course Content — General construction and oneration of a standard engine lathe. Theory of lathe cutting tools, sharpening of tool bits, safety precautions, plain turning, knurling, drilling and boring, and counter-boring. Tapping on the lathe, form turning and taper work. Use of various attachments such as face plate, steady and follower rest and grinding.
Tuesday — 7:00 to 10:00 p.m. 90 hrs. Campus CL.

LATHEWORK II (ADVANCED) — MACH 141B

Prerequisite — MACH 141A or equivalent experience.
Course Content — Taper turning, screw threading cutting, single and multiple start, eccentric turning, knurling. The construction and operation of the tracer and turret lathe. Tools set-up, speeds and feeds, cutting lubricants.
Wednesday — 7:00 to 10:00 p.m. 90 hrs. Campus CL.

MILLING AND SHAPING I — MACH 142A

This program is designed for people who wish to acquire basic skills and a knowledge in milling and shaping.
Course Content — Milling machine construction and operation of various types of milling machines, work holding devices, cutters and attachments, speeds, feeds, and safety precautions. Shaper: Principal parts and operation. Cutting tools, clearance and rake angles; machining surfaces and keyways with special attention to methods of holding work, safety precautions.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

MILLING AND SHAPING II — MACH 142B

Prerequisite — MACH 142A or equivalent experience.
Course Content — Theory and practice in the use of dividing head, with special attention to direct, plain, differential and angular indexing gear theory, gear cutting, helical milling theory with special emphasis to mathematical problems in helical milling. Shaping: Theory and practical work in special angles and dovetails.
Offered in 1971/72. Campus CL.

GRINDING — MACH 143

This course is designed for people who wish to acquire basic skills and knowledge in precision grinding.
Course Content: Surface grinding: Construction and op,. ation, mounting wheels, methods of holding work, principles of magnetic chuck, demagnetizing, grinding work square. Use of sine-chuck for grinding accurate angles, safety precautions. Cylindrical grinder, principal parts and operation, internal and external grinding, parallel and taper grinding. Tool and cutter: Purpose, theory and practice in sharpening various cutters.
Thursday — 7:00 to 10:00 p.m. 90 hrs. Campus CL.

DIEMAKING I — MACH 204

Course Content — Punch press theory and operation, press brake theory and operation. Theory, development, construction and operation of the following types of dies: cut-off, trim, pierce, bending, blank, forming, compound.
Wednesday — 7:00 to 10:00 p.m. 90 hrs. Campus CL.

MACHINE PLASTICS (Special) — MACH 900

Prerequisite — General machining experience.
Course Content — Drilling, tapping, bandsawing, turning and milling of plastics materials such as acrylics, polyolefins, polyvinyl chloride, A.B.S., polystyrenes, teflon and P.F.T.E.
Thursday — 7:00 to 10:00 p.m. 30 hrs. Campus CL.

MOULDMAKING I— MACH 901

Prerequisite — Considerable general machining experience.
Course Content — Safety, mould construction, parts and functions, types of steels used, accuracy, tolerancing, shrink factors, principal thermoplastics and their applications, specialized hand tools and equipment, finish on moulds, machining mould parts, heat treatment, lapping, assembly and tryout.
Monday — 7:00 to 10:00 p.m. 90 hrs. Campus CL.

MECHANICAL MAINTENANCE — MILL 900

This course is designed for those working as maintenance mechanics who wish to improve their knowledge of mechanical components, their functions, limitations, and service procedures.
Course Content — Belt drives, chain drives, gears, shafts, keys, couplings, bearings, variable speed transmissions, clutches, brakes and seals.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

GENERAL INFORMATION REGARDING EXTENSION COURSES IN PLASTICS

For some courses enrolment is limited.

SHIFT WORKERS

Our present policy is to permit those who cannot attend regular classes to attend the College between the hours of 9:00 a.m. to noon, Monday through Thursday, in lieu of attending evening classes. Dates and times must be prearranged.

TECHNICIAN AND OPERATOR PROGRAMS

The courses prescribed for these programs are identical to those listed in the day calendar for full time students. Part-time students can qualify for a certificate or diploma through extension courses.
The Technician A program is equivalent to a two-year daytime course and covers both thermosets and thermoplastics, plus related subjects.
The Technician B program is equivalent to a one-year daytime course and covers either thermosets or thermoplastics, plus related subjects.
Four Operator Programs are offered:

Thermoplastic — 1 — Machine Moulding
Thermoplastic — 2 — Forming and Fabricating
Thermosets — 1 — Hand Lay-up and Spray-up
Thermosets — 2 — Machine Moulding

In addition to the technical courses, related subjects such as mathematics, physics, chemistry, language and communication and business organization are required in order to qualify for a certificate or diploma. Related subjects may be studied by extension as and when they are offered.
Tuesday — 7:00 to 10:00 p.m. 90 hrs. Campus CL.

THERMOSET MATERIALS — PROCESSES AND DESIGN — PL 125
The student may select any, or all of the assignments for the three subject areas listed below.

MATERIALS THERMOSET
Course Content — History and introduction to polyester and expoxy resins. Reinforcements and fillers. Composites. Strength of material definitions.

PROCESSES THERMOSET
Course Content — Theory and application of thermosetting plastic processes. Pattern and mould making. Hand lay-up, spray-up, filament winding.

DESIGN THERMOSET
Course Content — Design characteristics for glass fibre reinforced plastics. Throw-away and plaster tooling. Reinforced plastic moulds and tooling. Wooden and metal moulds. Cost estimating.
Technical References:
Plastics Engineering Handbook by Society of the Plastics Industry.
Publisher. Reinhold.
Handbook of Reinforced Plastics by Oleesky and Mohr.
Publisher: Reinhold.
Modern Plastics Encyclopedia. Modern Plastics Magazine.
Publisher: McGraw-Hill.
Plastics by Dubois and John.
Fibreglas Canada Limited, Booklets Nos. 1, 2 and 3.
Canadian Gypsum Co. Ltd., Bulletin No. IGL 102 (re: Plaster Moulds).
Tuesday — 7:00 to 10:00 p.m. 90 hrs. Campus CL.

FORMING AND FABRICATING OF THERMOPLASTICS — PL 900
While the bulk of the thermoplastic articles that we see to-day are mass-produced on expensive equipment, there are still many articles made by forming and fabrication from sheet, castings, or shapes. Some of these are: car bodies, boats, signs, skylights, architectural models, mechanical models, works of art.
Equipment required can be quite inexpensive and much of this work can be carried out in the home using common household tools.
It should be of interest to people who are engaged in this type of production: model-makers, architects, engineers, hobbyists, artists.
Course Content — Machining, forming, welding, cementing, and decorating of thermoplastics materials.
Tuesday — 7:00 to 10:00 p.m. 30 hrs. Campus CL.
September 29, 1970 to December 1, 1970.

INTRODUCTION TO PLASTICS — PL 901
This course comprises lectures and demonstrations and includes materials, their properties and end uses.
Course Content — Thermosets and reinforced thermosets. Polystyrenes, vinyls, polyolefins polyamids, acrylics, engineering thermoplastics, reinforced thermoplastics. Converting processes; designing with plastics.
Thursday — 7:00 to 10:00 p.m. 30 hrs. Campus CL.
October 1, 1970, to December 3, 1970.

EXTRUSION — PL 902
This course is a prerequisite for a number of other plastics courses.
Prerequisite — PL 901 or equivalent industrial experience.
Course Content — Operating principles, components and nomenclature, drive systems, screw design. Heating and cooling; instrumentation and control, maintenance; multi-screw extruders.
Thursday — 7:00 to 10:00 p.m. 30 hrs. Campus CL.
January 7, 1971 to March 12, 1971.

DESIGNING WITH PLASTICS — PL 903
The purpose of this course is to assist designers to understand the properties and processing methods of plastics materials and to select materials appropriate to a product function.
Prerequisite — PL 901 or equivalent industrial experience.
Course Content — Design procedure and design considerations. Materials properties, processing methods, testing. Case histories.
Wednesday — 7:00 to 10:00 p.m. 30 hrs. Campus CL.
January 6, 1971 to March 11, 1971.

COMPOUNDING AND COLOURING — PL 904
Prerequisite — PL 902 or equivalent industrial experience.
Course Content — Equipment and processes, colour compounding. P.V.C. compounding. Dry blending. Fire retardants. Testing and quality control.
Wednesday — 7:00 to 10:00 p.m. 30 hrs. Campus CL.
March 18, 1971 to May 19, 1971.

INJECTION MOULDING — PL 905
Prerequisite — PL 902 or equivalent industrial experience.
Course Content — Injection, clamping and hydraulic systems, electrical controls. Heating and cooling. Maintenance and troubleshooting.
Thursday — 7:00 to 10:00 p.m. 30 hrs. Campus CL.
March 19, 1971 to May 20, 1971.

BLOW MOULDING — PL 906
Prerequisite — PL 902 or equivalent industrial experience.
Course Content — Systems, manifolds, valves, accumulators. Dies, moulds, programming. Clamping systems, post treatment, maintenance, trouble-shooting. Testing, quality control.
Monday — 7:00 to 10:00 p.m. 30 hrs. Campus CL.
March 16, 1971 to May 24, 1971.

PLASTIC FILM — PRODUCTION, TESTING AND APPLICATIONS — PL 907
Course Content — Dies, cooling; film handling systems; winding, treating, printing. Cast and laminated film, testing, end uses, bagmaking, printing.
Thursday — 7:00 to 10:00 p.m. 30 hrs. Campus CL.
March 19, 1971 to May 20, 1971.

GENERAL CHEMISTRY — CHEM 100
Course Content — METHODS OF CHEMISTRY: Physical and chemical changes, chemical terminology. ORGANIC CHEMISTRY: Structure and reactions of common aliphatic groups. STATES OF MATTER: Gas laws, partial pressure. NUCLEAR CHEMISTRY: Basic nuclear particles, isotopes, radioactivity, half life, radioisotopes and uses. EQUILIBRIUM: Rate of reaction, reversibility, LeChatelier's Principle, equilibrium constant, solubility as an equilibrium process, methods of expressing solubility and concentration, ion exchange. ACIDIMETRY AND HYDROLYSIS: Definitions, pH, indicators, titra; ions, relation to oxidation and reduction. ELECTRO-CHEMISTRY: Electrolysis, Faradays Law, electro-chemical series, corrosion.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

POLYMER CHEMISTRY — CHEM 210
Prerequisite — CHEM 100.
Course Content — The chemistry and physics of natural and synthetic polymers covering the following topics: Molecular forces and chemical bonding, molecular weight and its distribution, configurations and conformations of polymar chains, morphology, condensation and addition polymers, copolymers, methods for determination molecular weight of polymers, structure of polymer molecules, how structure determines properties of polymers, testing and degradation of polymers, rheology of polymers. Emphasis will be placed on common plastic materials. Practical work in the laboratory.
Thursday — 7:00 to 10:00 p.m. 90 hrs. Campus CL.

BUSINESS EQUIPMENT SERVICING, Part I — BES 900
The aim of this course is to familiarize the student with the operating principles of the various parts of a typewriter and teach him to correct malfunctions that may occur on these machines.
Prerequisite — Grade 10 or some experience in the business machine field.
Course Content — Checking, troubleshooting, analysing of mechanisms and their operations, corrective adjustments. Assembling and disassembling procedures of the major machine parts.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

BUSINESS EQUIPMENT SERVICING, Part II — BES 901
Adding machine servicing — in this course the student will be taught the operating principles and servicing of adding machines.
Prerequisite — Grade 10 or students should be employed in the business machine industry.
Course Content — Theory of adding machines, tape, reading, trouble-shooting, repairing, adjusting. Checking and replacement of parts such as printing mechanism, stop section racks units, power unit and accumulation units.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

ELECTRIC WATCH SERVICE — WATCH 900
Prerequisite — Currently employed in watchmaking industry.
Course Content — Introductory electricity, Bulova, Accuiron, Hamilton electric watches, Swiss electric watches, Timex electric watches.
NOTE: This course will consist of 20 evenings.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

WATCHMAKING — WATCH 901

Prerequisite — Currently employed in the watchmaking industry.
Course Content — Lathe work, balance work, hairspring work, clock work, watch conditioning, escapement matching, jewelling, making staffs and stems, adjusting, complicated watches, preparation for Canadian Jewellers' Association examinations.
NOTE: Each section must be successfully completed before further advanced training may be undertaken.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.

WATCHMAKING (ADVANCED) — WATCH 902

This is a pre-examination course for candidates seeking Ontario certification as a watch repairer.
Prerequisite — Applicants must be qualified watchmakers willing to study modern advanced theory of watch construction, repair and adjustment.
Tuesday and Thursday — 7:00 to 10:00 p.m. 120 hrs. Two nights per week. Campus CL.

FOOD TECHNOLOGY

PRACTICAL BAKING — BK-10-1A

This course is designed for those who wish basic knowledge of baking. Lectures, demonstrations and student participation are combined to convey both practical and theoretical aspects of the art of baking.
Quick breads, pies and tarts, puddings, bread and rolls, sweet yeast products, puff pastries and pate aux choux, icings and fillings, cakes and cookies — ready mixes and other convenience products.
Special emphasis will be placed on variations, quality and eye appeal.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus K.
Fee — $26.00.

CAKE DECORATING AND DESIGN I — BK 10-1C

Prerequisites — This course is designed for those persons who wish to learn the art of cake decoration and design.
Icings and coatings, royal icing, fondants, butter creams, couvetures, boiling icing and frostings, basic design, techniques of piping, decorating materials, methods, freehand, geometric designs, stencils, run-outs, prefabricated decorations, lettering, flowers, border design, etc. Cakes for special occasions — techniques and methods.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.
Fee — $26.00.

SMALL BAKERY MANAGEMENT — BK 900

Prerequisites — This course is designed for persons wishing to upgrade their positions and for those already in management positions who wish to broaden their knowledge into other areas of the baking industry.
Stock control, costing principles, production, scheduling, government regulations and law, labour utilization, human relations, work study, job specification, product development, new production techniques.
Thursday — 7:00 to 10:00 p.m. 30 hrs. Campus K.
Fee — $15.00.

PASTRY CRAFT — BK 16 BASIC — BK 24 ADVANCED

Pies and tarts, custards, puddings, puff paste, choux paste, French pastries, petits fours, meringues, hot hors d'oeuvres, doughnuts, pound and fruit cakes, high ratio cakes, sponge and angel cakes, chiffon cakes and other varieties of dessert.
Monday — 8:00 a.m. to 3:00 p.m. 180 hrs. Campus K.
Fee — $80.00.

BREAD CRAFT — BK-15 BASIC — BK 23 ADVANCED

Muffins, rolls (soft and hard types), breads — Pan, French, Italian, Hearth-style, bun doughs. Danish pastries, yeast doughnuts, special variety breads and dietary breads.
Tuesday — 8:00 a.m. to 3:00 p.m. 180 hrs. Campus K.
Fee — $80.00.

CAKE CRAFT — BK 17 BASIC — BK 25 ADVANCED

Puff paste, choux paste, French pastries, petits fours, meringues, cake type doughnuts, pound and fruit cakes, high ratio cakes, sponge and angel cakes, chiffon cakes.
Wednesday — 8:00 a.m. to 3:00 p.m. 180 hrs. Campus K.
Fee — $80.00.

COOKIE CRAFT — BK 18

Cut-out cookies, drop or piped cookies, ice-box cookies, bar and sheet cookies.
Thursday — 8:00 a.m. to 12 noon. 60 hrs. Campus K.
Fee — $60.00.

DECORATING CRAFT — BK 19

Icings, toppings, decorating with icings, marzipan, gum paste, special occasion cakes, gum paste work.
Thursday — 8:00 a.m. to 12 noon. 60 hrs. Campus K.
Fee — $60.00.

BAKERY TECHNIQUES

Prerequisites — Grade 10, with relevant industrial experience or successful completion of apprenticeship or bakery craft course in the same subject.

DECORATING TECHNIQUES AND DESIGN — BK 128

Science of decorating, equipment, materials, production methods, design, etc.
Monday — 10:00 a.m. to 5:00 p.m. 120 hrs. Campus K.
Fee — $70.00.

BREADMAKING TECHNIQUES — BK 134
Science of breadmaking, materials, (composition, usage, type and availability) basic equipment, production techniques, etc.
Monday — 10:00 a.m. to 5:00 p.m. 120 hrs. Campus K.
Fee — $70.00.

CAKEMAKING TECHNIQUES — BK 135
Materials, equipment, production techniques, raw materials testing etc.
Wednesday — 10:00 a.m. to 5:00 p.m. 120 hrs. Campus K.
Fee — $70.00.

COOKIE AND BISCUIT TECHNIQUES — BK 136
Science in the industry, basic equipment, production methods, materials handling etc.
Thursday — 10:00 a.m. to 5:00 p.m. 120 hrs. Campus K.
Fee — $70.00.

CANDY AND CHOCOLATE TECHNIQUES — BK 137
Science in the industry, basic equipment, production methods, materials handling etc.
Friday — 10:00 a.m. to 5:00 p.m. 120 hrs. Campus K.
Fee — $70.00.

BAKERY ENGINEERING AND EQUIPMENT — BK 139
Prerequisite — Grade 10 with relevant industrial experience or successful completion of apprenticeship, and one of BK 138, BK 134, BK 135, BK 136, BK 137.
Study of all types of bakery equipment, faults and breakdowns, plant layout and preventive maintenance scheduling.
Wednesday — 10:00 a.m. to 5:00 p.m. 120 hrs. Campus K.
Fee — $70.00.

BAKERY MANAGEMENT — BK 140
Prerequisite — Grade 10 with relevant industrial experience or successful completion of apprenticeship, and one of BK 138, BK 134, BK 135, BK 136, BK 137.
Covering aspects of management as they apply to the baking industry
Friday — 10:00 a.m. to 5:00 p.m. 120 hrs. Campus K.
Fee — $70.00.

THE BAKING INDUSTRY — BK 901
This is an appreciation course for those who are closely involved in the Baking Industry, but not actively engaged in the production areas, for example, Public Health Officials, Sales Personnel and Allied Trade Representatives.
The program is designed to give the student an understanding of the terminology, the various methods in common use, and the capabilities of the equipment, to enable them to have greater communication with the production personnel.
Monday — 7:00 to 9:00 p.m. 20 hrs. Campus K.
Fee — $15.00.
The bread industry, the methods equipment and ingredients used, from the intake of raw ingredients to the dispatch area. The cake and cookie bakeries, production methods, equipment and finishing techniques employed.

PRACTICAL COOKING COMMERCIAL 1 — CHEF 10-1A
Prerequisites — This course is offered to those persons who have a basic knowledge of cooking. Lectures, demonstrations and student participation are designed to teach practical cooking with a difference. Emphasis will be placed on variations of taste and texture in normal everyday foods, keeping in mind accurate costing and portion control.
Course Content — Basic soups and sauces, roasting, broiling and baking of meats, poultry cookery, roasting, sauteing, casseroles, various methods of preparing and cooking fish with accompanying sauces and garnishes, salad preparation with suitable dressings, use of fresh fruit and vegetables, vegetable cookery, egg cookery, sandwich preparation.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.
Fee — $30.00.

BEVERAGE SALES AND SERVICE (Cocktail Bartending) — FA 206
Prerequisites — A basic course for cocktail bartending. This course is open to men or women twenty-one years of age and who are currently working full or part time in a licensed establishment.
Course Content — Bar layout and equipment, manufacture of alcoholic beverages, beverage selection, storage and control. Duties of the bartender, pre-opening preparation, theory of mixed drinks, practical preparation of mixed drinks and cocktails, sales and service of alcoholic beverages, selection of wines and their service. Human relations relating to licensed establishments.
Monday — 7:00 to 10:00 p.m. 30 hrs. Campus K.
Fee — $50.00.

GUERIDON AND LAMP COOKERY — FADM 134
Prerequisites — A working knowledge of Dining Room Service.
Course Content — Mise-en-place for side table service and lamp cookery, care and use of equipment and smallware including wagons, lamps, stoves, chafing pans. Preparation of "Seen Food" at the table and practical service. Popular food items will include Appetizers — Canapes Ambassador; Salads — Caesar Salad plus a variety of Salad dressings; Chalfing dish foods — Sweetbread, A La Sarah Bernhardt, Steak Diane; Entrees — Carving of roasts, grilled meats, game and fowl; Desserts include Crepe Suzettes and Cherry Jubilee; Fruits — Banana Flambe and Strawberry Romanoff, Beverages — Cafe Diable, Spanish Coffee, Irish Coffee, Turkish.
Monday — 7:00 to 10:00 p.m. 30 hrs. Campus K.
Fee — $30.00.

MENU PLANNING AND FOOD MERCHANDISING — FADM 101
Prerequisite — Previous supervisory experience in food industry is desirable.
Course Content — Food habits and meal patterns, the "classical" or formal meat pattern, principles of planning a well balanced meal, use of descriptive terminology on the menu, "classical" (i.e. French) menu terminology, rational use of food supplies in menu planning, advantages of "limited" menus and of cyclical menu planning, planning banquet menus, rational consideration of staff and equipment facilities in menu planning, methods of serving food, costing and pricing the menu.
Monday — 7:00 to 10:00 p.m. 30 hrs. Campus K.
Fee — $15.00.

FOOD COST ANALYSIS AND CONTROL — FADM 103
Prerequisites — Previous supervisory experience in food industry is desirable.
Course Content — Weights and measures, conversion of volume measures of food to weights, developing standard recipes, costing the recipe, standardization of portion sizes, use of the food cost percentage, calculating selling prices, stock control, receiving an issuing control, rational purchasing of food supplies, standard purchasing specification, system of food costs control.
Tuesday — 7:00 to 10:00 p.m. 30 hrs. Campus K.
Fee — $15.00.

HOTEL FRONT OFFICE ACCOUNTING PROCEDURES — FADM 211
Prerequisites — Grade XII or experience in the Hotel/Motel Industry.
This course is designed for those currently employed in the industry who seek a position in the front office, for those currently employed in the front office who seek advancement and for those in the accounting department who wish to further their knowledge of Hotel Accounting.
Course Content — The function of the front office and its methods of operation, the theory of proper billing procedures for hotel guests, a demonstration of the various accounting machines and forms used in the front office, an extensive night audit procedure including practical work on the accounting machines to enable the student to understand and accurately balance a front office audit.
Tuesday — 7:00 to 10:00 p.m. 30 hrs. Campus K.
Fee — $15.00.

RETAIL MEAT CUTTING AND BUTCHERY — MC 900
Prerequisites — This course is designed for persons in junior positions in the retail trade and people interested in the skill of meat cutting.
Course Content — Lecture and Demonstration — Cutting, grading and characteristics of beef, lamb, pork and veal carcasses, preparation of poultry, fish and shellfish for retail sale, displaying and merchandising of all types of meat products, special lectures on sanitation and refrigeration. Students will participate in meat cutting during the course, this will include boning and typing of various meat products.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.
Fee — $26.00.

RETAIL MEAT STORE MANAGEMENT — MC 901
Prerequisites — This course is offered to those people who have a basic knowledge of meat and who wish to upgrade their knowledge for advancement to the position of manager, and for any person actively engaged in a meat store operation.
Course Content — Financial control of a retail operation, personnel training and relations, buying, receiving and storing for profit, meat department security, display and merchandising techniques, customer relations, sanitation for profit, increasing profits through deli and fish.
Monday — 7:00 to 10:00 p.m. 30 hrs. Campus K.
Fee — $15.00.

CULINARY ARTS

BASIC PRACTICAL COOKERY — F 900
Course Content — This course is designed to introduce the basic principles of cooking as related to fine food, to take the raw products and create the basic requirements for classical dishes, sauteing, broiling and stewing, cooking lean and fat fish, seafoods, and the accompanying vegetables, salads, garnishes and dressings. Using the knowledge and expertise of chefs, in the use of herbs, spices and wines.

OR

Tuesday — 1:00 to 5:00 p.m. or 6:00 to 10:00 p.m.
Wednesday — 1:00 to 5:00 p.m. or 6:00 to 10:00 p.m. Campus K.
Length: 15 weeks, 1 class per week.
Fee — $75.00.

PRACTICAL BAKING AND DESSERTS — F 901

This course is designed to equip the student with a practical working knowledge of pastry doughs, choux paste, yeast doughs and sponge goods, the use of icings, creams, puddings, custards, fruits, tarts, pies and quick breads, the high ratio and angel cake mixes, simple decoration and presentation of birthday and other occasion cakes.
Tuesday — 1:00 to 5:00 p.m. or 6:00 to 10:00 p.m.
OR

Wednesday — 1:00 to 5:00 p.m. or 6:00 to 10:00 p.m. Campus K.
Length: 10 weeks, 1 class per week.
Fee — $50.00.

THE ART OF FINE DINING, Part I HOME AND ABROAD — F 902

This course will introduce the intimate knowledge of fine dining whether at home, on the town or abroad, from the simple everyday meal to the more complex and exotic. How to plan the menu with attention to nutrition, quality and balance, the table settings, the floral arrangements, lighting and atmosphere, the techiques of arranging a dinner or lunch party at your favourite restaurant with attention to the details of special dishes and service that the occasion may demand, choosing guests and seating arrangement, anticipating the tastes of your guests.
Tuesday — 3:00 to 6:00 p.m. or 7:00 to 10:00 p.m.
OR

Thursday — 3:00 to 6:00 p.m. or 7:00 to 10:00 p.m. Campus K.
Length: 7 weeks, 1 class per week.
Fee — $30.00.

PRINCIPLES OF MANAGING FOOD PART II — F 903

This course will give the student a sound and sensible approach to the ever present need for better knowledge of food products, their selection and pricing, the recognition of the physicial cuts of meat, the grades of poultry and game, the freshness and grades of fish and seafoods, the time and season to buy, how to store and preserve foods economically without unnecessary investment, how to evaluate the advertising of food products.
Tuesday — 3:00 to 6:00 p.m. or 7:00 to 10:00 p.m.
OR

Thursday — 3:00 to 6:00 p.m. or 7:00 to 10:00 p.m. Campus K.
Length: 8 weeks, 1 class per week.
Fee — $35.00.

ADVANCED PRACTICAL COOKERY — F 904

Prerequisite: Basic practical cookery.
This course will take the basic principles of cooking and apply them to the classical dishes of the countries in continental Europe. So that the student will be able to produce the French classics, the famed Italian pastas, the Spanish paellas, the Russian coulibiacs, the Scandanavian smoregasbords, the German sauer braten and beer soups, the shish kabobs of Turkey and Greece, the bouillabase of Marseilles, Indian curries, Japanese suki yaki, the nasi goreng of Indonesia and a host of other famous dishes.
Date: Open.
Time: 1-5 p.m. or 6-10 p.m.
Length: 15 weeks, 1 class per week — commencing September 1971. Campus K.
Fee — $75.00.

CREATIVE PASTRY AND DESSERTS — F 905

This course will take the basic knowledge of pastry and desserts and allow the development of these techniques to create the patisserie masterpieces, the flamboyant desserts, Ice cream bombs, souffles, petits fours, tortes, gateaux, and sugar creations with the decorative centre pieces, the true art of french pastries and their presentation.
Date: Open.
Time: 1-5 p.m. or 6-10 p.m.
Length: 10 weeks, 1 class per week — commencing September 1971. Campus K.
Fee — $50.00.

PLANNED "ENTERTAINING" FOR PLEASURE — F 906

This course is designed to give the student a master plan for catering within the home or rented establishment. The larger parties that the hostess may be called upon to organize such functions as weddings, showers, cocktail parties, lunches, dinners, barbecues, birthday, anniversary parties, or any other occasion when quantity, quality and economics must be given equal attention. There are many considerations, and experi planning is the answer.
Date: Open.
Time: 1-5 p.m. or 6-10 p.m.
Length: 7 weeks, 1 class per week — commencing September 1971. Campus K.
Fee — $30.00.

APPRECIATION OF WINES, SPIRITS AND LIQUEURS — F 907

This course will be devoted to the knowledge of wines, primarily from the standpoint of types, vintage, and prices, secondly from the handling, storage, and correct usage in relation to the menu, the countries of origin, and districts, and the grading by the authorities, the correct glassware, the serving temperatures, and the evaluation by taste of the more distinct wines by special guest lecturers.
Date: Open.
Time: 1-5 p.m. or 6-10 p.m.
Length: 8 weeks, 1 class per week — commencing September 1971. Campus K.
Fee — $35.00.

STRICTLY FOR ENTERTAINI...NT — F 908 X

Prerequisite — This course is designed fo rthose homemakers having a basic knowledge of cooking but wish to entertain at home with flair and imagination.
Course Content — A series of lectures and demonstrations. Although the meals prepared are not intended to represent the conomical fare for the family, the basic principles of the selection, combination and cooking of food can be applied to everyday use. Each session will be devoted to a complete menu and students will be given the opportunity to taste each dish whenever possible. A selection of complimentary wines will be discussed and sampled.
Monday 7:00 to 10:00 p.m. 30 hrs. Campus K.
Fee — $30.00.

WINE MAKING FOR THE AMATEUR — F 909 X

Prerequisite — This course is designed for those persons interested in the art and craft of making wines at home and is open to any person over the age of twenty-one.
Course Content — Brief history of wine making, basic wine making equipment, yeast and yeast cultures, stages in wine making, basic methods of testing analysis and evaluation. Students will be given the opportunity to participate in all stages of the program including making various types of wines, conducting tests and taste evaluation of both homemade and commercial wines.
Thursday — 7:00 to 10:00 p.m. 30 hrs. Campus K.
Fee — $26.00.

COOKING IN THE GERMAN MANNER — F 910 X

Prerequisite — This course is designed for anyone interested in the art of German Cooking.
Course Content — Ten demonstrations of hearty dishes from different regions of Germany. During most of the demonstrations, the preparation of various hot dishes such as Eisbein (pork hocks), Sauerbraten (marinated beef pot roast), Bratwurst (sausage), Gaensebraten (roast goose), Rotkohl (red cabbage), Sauerkraut, Knoedel (dumplings), etc., will be shown, but there will also be a demonstration of German-style cold cuts and delicatessen. Suggestions of German wines, beers and spirits to accompany the demonstrated foods will be given, and the students will be able to sample both food and drink.
Wednesday — 7:00 to 10:00 p.m. 30 hrs. Campus K.
Fee — $30.00.

FOOD MICROBIOLOGY — FC 200

Prerequisites — This course is designed for Food Technologists, Sanitarians, etc., to whom a knowledge of the role of microbiology in food is required. Post-secondary school training in the biological sciences, (biology, Biochemistry) as well as organic chemistry is required.
Course Content — An introductory course in Food Microbiology with emphasis on bacteriological techniques. The use and care of the microscope. The isolation of bacteria for the purpose of differentiation and classification by morphological, culturnl and biochemical methods. The relationship of habitat to the occurance of microorganisms on foods, food manufacture. Physical, chemical and biological destruction. Methods of microbiology examination of food as well as public health and sanitation bacteriology. The role of micro-organisms in food manufacture.
Wednesday — 7:00 to 10:00 p.m. 120 hrs. Campus K.
Fee — $60.00.

FOOD ADDITIVES AND NUTRITION FOR THE CONSUMER — FC 900

Prerequisite — More and more the cosumer is demanding more informateion concerning the manufactured foods offered in various retail outlets. This course is designed to inform the consumer as to the modern techniques, with particular reference to the various additives, being employed in the Food Industry in Canada as well as their effect upon the nutritional quality.
Course Content — Definition of a food and additive. Modern food manufacture and the role played by additives. Identity of permitted food additives and regulations regarding their use. How is the nutritional quality affected by methods of manufacture and additives? Modern labelling regulations and their interpretation. Commercial food grades and their relation to consumer quality. A look at the future trends in food processing and manufacture from the consumer viewpoint.
Tuesday — 7:00 to 10:00 p.m. 120 hrs. Campus K.
Fee — $50.00.

SANITATION, HYGIENE AND MICROBIOLOGY TECHNIQUES — SAN 130
Prerequisite — Grade 10 with relevant industrial experience or successful completion of apprenticeship and one of BK 138, BK 134, BK 135, BK 136, BK 137.
Course Content — Science of microbiology, types of organisms, food spoilage, bacterial growth, food poisoning, food-borne organisms, pests and pest control etc.
Monday — 10:00 a.m. to 5:00 p.m. 120 hrs. Campus K.
Fee — $50.00.

QUALITY CONTROL AND PRODUCT DEVELOPMENT — QC 130
Prerequisite — Grade 10 with relevant industrial experience or successful completion of apprenticeship and one of BK 138, BK 134, BK 135, BK 136, BK 137.
Course Content — Scoring techniques, random selection and evaluation, statistical control methods, test baking techniques, product development etc.
Tuesday — 10:00 a.m. to 5:00 p.m. 120 hrs. Campus K.
Fee — $50.00.

CEREAL CHEMISTRY AND TECHNIQUES — FT 130
Prerequisite — Grade 10 with relevant industrial experience or successful completion of apprenticeship and one of BK 138, BK 134, BK 135, BK 136, BK 137.
Course Content — A complete study of the industry's basic ingredient, types of flour, milling procedures, comparison tests and test baking techniques.
Thursday — 10:00 a.m. to 5:00 p.m. 120 hrs. Campus K.
Fee — $50.00.

UNIT OPERATIONS AND FOOD MANUFACTURING — FT 900
Prerequisites — This course is designed for anyone presently employed in the Food Industry to whom the knowledge of the various unit operations and how they are employed in the manufacture of foods would be beneficial. Some of those who would find this course particularly of interest would be: Food plant inspectors from both government and industry; sales and marketing personnel, accounting, mechanical maintenance, etc.
Course Content — The various unit operations involved in food processing and manufacture will be discussed. The use of these unit operations in the various production lines of modern food manufacture will be detailed. Particular attention will be paid to descriptions of most of the typical lines of production used in the Food Industry today with reference to their strengths, weaknesses from both a production, quality and sanitation point of view.
Monday — 7:00 to 10:00 p.m. 120 hrs. Campus K.
Fee — $50.00.

GRAPHIC ARTS

INTRODUCTION TO TYPOGRAPHY — GR 100
This course is designed to provide a general appreciation of the subject through a balanced programme of illustrated lectures and practical work. Will also provide the laymen with a comprehensive background to enabe him to make his own critical assessment in the typographic design field. The emphasis throughout the course will be on the contemporary scene. The historical and technical aspect will be covered only in as much detail as an understanding of contemporary work is required.
Course Content — A definition of typography, Historical and technical development. The relationship with other arts, basic principles of design, working methods, typography in various media — books brochures/ advertising etc., future development, preparation of mechanicals and illustrations.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus T. Fee — $26.00.

MONOTYPE KEYBOARD (BASIC) — GR 200A
Prerequisite — Hand composition or linecaster operation (typewriter ability preferred).
The purpose is to introduce the student to the Monotype System, operating mechanisms, and to develop operating speeds to enable students to advance into a new course, involving more complex and tabular composition.
Course Content — The set and unit system, mechanical operations, fingering exercises, conversion tables, MCA arrangements, setting of justified, flush left, right and centred lines, leadered work, prepare caster labels. Setting various jobs using all alphabets in various formats.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus T. Fee — $26.00.

MONOTYPE CASTER (OPERATING COURSE) — GR 200B
Prerequisite — Hand composition or linecaster operation or monotype keyboard.
The purpose is to introduce the student to the Monotype System, operating mechanisms, and to enable the student to set up and operate caster.
Course Content — The set and unit system mechanical operations, pump mechanism maintenance, mould maintenance, matrix case arrangement, sizing and line-up, line measures and running sorts and job ribbons.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T. Fee — $26.00.

PHOTOCOMPOSITION (OPERATING COURSE) — GR 202
Prerequisite — Hot metal composition.
The purpose is to introduce the student to the operating principles of the 713-20 Photon Textmaster and KC-10 or Linofilm Quick.
Course Content — Film strips optics and escapement, memory programming, tape codes, test panel read, justify and expose cycles). Operating functions and development of materials. Five-week typing orientation prior to Keycomp 10 operation. Compugraphic (7200) display.
Wednesday — 7:00 to 10:00 p.m. 120 hrs. Campus T. $90.00.

BLACK AND WHITE REPRODUCTION — GR 105 & GR 107
Prerequisite — Preference will be given to candidates employed in the Graphic Arts Industry. This course is intended as an introduction to Graphic Arts Photography.
Course Content — Light and illumination, densitometry, chemistry of photography, operation of the process cameras, line and fine line, halftone, photography for the lithographic or gravure process; an introduction to film processors.
Thursday — 7:00 to 10:00 p.m. 120 hrs. Campus T. Fee $90.00.

COLOUR REPRODUCTION OFFSET — GR 205
Prerequisite — Extensive experience in line and halftone photography.
Course Content — This course is intended as an introduction to basic colour separation procedures, and will include the theory of colour reproduction, separation and correction; densitometry and characteristic curves: materials and equipment required; dye masks and silver masks will be used to make continuous tone separations from transmission and reflection copy; students will gain practical experience in colour separations and screen positives.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus T. Fee — $46.00.

COLOUR REPRODUCTION ROTOGRAVURE — GR 207
Prerequisite — Extensive experience in line and halftone photography.
Course Content — This course is intended as an introduction to basic colour separation procedures, and will include the theory of colour reproduction, separation and correction; censitometry and characteristic curves: materials and equipment required; dye masks and silver masks will be used to make continuous tone separations from transmission and reflection copy; students will gain practical experience in colour separations and screen positives.
Monday — 7:0 0to 10:00 p.m. 60 hrs. Campus T. Fee — $46.00.

FILM IMPOSITION AND STRIPPING — GR 210

Prerequisite — Preference will be given to candidates employed in the Graphic Arts Industry.
Course Content — Basic mathematics, drafting and layout practices, job planning, layout and imposition, stripping procedures and operations for black and white and colour, step and repeat using pin register system, photographic contacts, spreads and chokes, and an introduction to process colour stripping.
Tuesday — 7:00 to 10:00 p.m. 120 hrs. Campus T. Fee — $90.00.

MACHINE PRINTING — GR 217

Rotogravure and Flexographic (Advanced).
Prerequisite — Preference will be given to candidates with a working knowledge of the printing machinery.
This course is prepared to outline the principles of roll feed printing equipment of the rotogravure and flexographic printing process.
Course Content — Fundamentals of rotogravure and flexographic printing; inks, rolls, register and tension controls, electrical controls, Doctor blades, gas dryer ovens, handling of gravure cylinders.
Thursday — 7:00 to 10:00 p.m. 120 hrs. Campus T. Fee — $90.00.

MACHINE PRINTING — GR 115

Offset Lithography, Single Colour (Basic).
This course is designed for candidates with a working knowledge of printing and machinery.
Course Content — Basic fundamentals of offset lithography, feeder water and ink controls, dampening systems (both conventional and alcohol), colour control, and advance training programme which leads to advance pressmanship.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T. Fee — $36.00.

MACHINE PRINTING — GR 117

Offset Lithography, Single Colour (Basic)
This course is designed for candidates with a working knowledge of printing and machinery.
Course Content — Basic fundamentals of offset lithography, feeder water and ink controls, dampening systems (both conventional and alcohol), colour control, and advance training programme which leads to advance pressmanship.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T. Fee — $46.00.

MACHINE PRINTING — GR 215

Offset Lithography, 2-colour (Advanced)
This course is designed for candidates presently working in the industry and who have extensive knowledge of offset lithographic pressmanship or who have attended the basic GR115 or GR 117.
Course Content — Fundamentals of offset lithography, feeder and inking systems, dampening systems (conventional and alcohol), register, print, ink, paper, cylinders, multi-colour equipment, densitometer application.
Thursday — 7:00 to 10:00 p.m. 120 hrs. Campus T. Fee — $90.00.

BINDING AND FINISHING — GR 125

Programmed Cutter and Folder.
Prerequisite — Proficiency in some bindery operations is desirable.
The purpose of the course is to explain the engineering principles, set-up procedures, preventative maintenance, and to provide practical experience in the actual operation of the equipment.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T. Fee — $46.00.

BINDING AND FINISHING — GR 126

Sewing and Stitching.
Prerequisite — Proficiency in some bindery operations is desirable.
The purpose of this course is to acquaint the candidate with the different kinds of sewing and stitching methods, engineering principles, set-up procedures, preventive maintenance and to provide practical experience in actual operation of the equipment, making dummies and related exercises.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus T. Fee — $26.00.

BINDING AND FINISHING — GR 225

Perfect-Adhestive Binding and Gathering.
Prerequisite — Proficiency in some bindery operations is desirable.
The purpose of this course is to familiarize the candidate with procedures in high speed binding, theoretical and practical aspects of perfect binding and its importance in the knowledge explosion age.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus T. Fee — $46.00.

QUALITY CONTROL — GR 220 & GR 222

Preference will be given to candidates employed in the Quality Control Department of Paper, Ink or Printing Industry.
Controls and standards during camera photo composition, platemaking, printing and binding processes. Statistical methods and their application in the printing industry.
Course Content — Paper, board and other printing substrates; ink and adhesive testing procedure employing related instruments.
Tuesday — 7:00 to 10:00 p.m. 120 hrs. Campus T. Fee — $70.00.

VARITYPING (ADVANCED) — GR 910

Prerequisite — Previous experience and training on Varityping machine and 40 words per minute typing.
This course is designed to familiarize the Varityping operator with the advanced techniques of the operation of the Varityping Machine.
Course Content — Automatic justification and its variations, compositions of tabular copy with and without leader lines, copyfitting, forms design, ruling by hand, type selection, layout and paste-up.
Tuesday and Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus C.

SCREEN PROCESS PRINTING — SP 900

This course is designed for persons currently employed in this field who wish to upgrade their skills in the more specialized methods of the photographic process.
Course Content — The operation of the process camera, line and halftone film-making; the photo-screening method of silk screen reproduction; preparation of direct screen emulsion stencils, the application and procedure to good screen making.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus T. Fee — $26.00.

SCREEN PROCESS PRINTING (BASIC) — SP 901

This course is designed for persons not in the industry, but who wish to attain skills in basic stencil cutting, screen making and printing.
Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus T. Fee — $26.00.

MAJOR EQUIPMENT LIST

TYPESETTING

Monotype Keyboards, composition caster, display caster, universal strip caster, Friden LCC-VFC keyboards, model M Ludlow, elektron with TOU 75 tape unit, 713-20 photon textmaster, KC-10 keyboard, linofilm quick, justape computer, and auxiliary composing room equipment.

REPRODUCTION

Robertson horizontal 24" camera, Klimsch vertical camera, densitometers, Carlson step-and-repeat system, dainippon photocomposition machine, platemaking equipment, Kodak Versamat Film Processor, Kodalith Film Processor.

MACHINE PRINTING

Multilith 1250-T51 head and 1850. A. B. Dick 385, Heidelberg KOR with conventional dampening, 19 x 25" Harris single-colour with Microflow, 25" Miehle Favourite with conventional dampening, 23 x 29" Harris 2-colour with microflow. 25 x 38" Miehle, 2-colour with Miehlematic dampening, model T-10 x 15 Heidelberg Platen with Foil stamping, Heidelberg KSB Cylinder letterpress, gravure proofing press, two-colour in-line 30" printer for Rotogravure with interchangeable units for Flexographic Printing.

QUALITY CONTROL

Elmendorf Tear Tester, Lansco light, Paper Micrometer, P. T. G. dial guage, Surface Tension Apparatus, Shore Durometer, Mullen Tester, Oven isotemp senior, Balance-Ohaus, Colourimeter Spectronic 20, P.H. Meter, Spectrum Demonstration Kit, Metallurgical microscope, Viscometer, Grindometer, Churchill Tackmeter, Glossmeter, Densitometers.

BINDING AND FINISHING

26 x 40" Mark 11 Baum Folder, Muller type 201 Super gathering machine, Smyth No. 12 booksewer machine, bostitcher No. 19E stitcher, Challenger J. F. paper drill, Richards die-making equipment, 42" Seybold magnetic 12 Channel Auto-spacer Guillotine, Muller pony 5 perfect binding machine, Muller stitcher.

MARINE TECHNOLOGY

STATIONARY ENGINEERING 3rd and 4th CLASS — MAR 900

These courses are orientated towards the students successful participation in the Department of Labour's examinations as outlined under the Operating Engineers Act.
Prerequisite — 19 years of age.
Course Content — Steam boilers including safety valves, water gauges and columns blow-down and scum valves, boiler construction, feed water admission treatment and conditioning, safe operation, maintenance and inspection.
Combustion: fuels, fuel burning and firing equipment and air supply.
Auxiliary equipment: feed water heaters, condensers, pumps, injectors and air compressors.
Refrigeration systems including safe operation and maintenance. Principles of electricity, operation and maintenance of motors, generators and transformers.
Monday — 7:00 to 10:00 p.m. 66.00. 60 hrs. Campus CL.

STATIONARY ENGINEER 2nd Class — MAR 901

Prerequisite — 3rd Class.
Course Content — Steam boilers and accessories construction and maintenance with emphasis on operation, repair and inspection and testing; combustion, fuels, heat transfer.
Refrigeration theory, operation, maintenance, repair and inspection. Air compressors, types, principles and safe operation of systems.
Mathematical calculations relating to: boiler performance, fuel combustion, draft, refrigeration performance, boiler construction, electricity and pumps.
Monday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.
Fee — $26.00.

RADIO AIDS TO NAVIGATION FOR YACHTSMEN — MAR 902

The course is designed to familiarize the yachtsman with the principle and operation of some of the modern radio aids to navigation found in small craft on the Great Lakes and around the coasts of Canada.
MARINE RADIO-TELEPHONE — procedures, marine traffic control, installation.
Ro. D. F. — principle, taking bearings, radiobeacons.
ECHO SOUNDERS — visual type, recorders.
LORAN — receiver operation, lattice charts, Loran-C.
DECCA NAVIGATION — Decca claims, lane identification, errors.
RADAR — echo principle, time bases, the radar picture, spurious echoes. Radar performance, radar plotting.
Monday — 7:00 to 10:00 p.m. 30 hrs. Campus CL.
Fee — $15.00.

COASTAL NAVIGATION FOR YACHTSMEN — MAR 903

Course Content — latitude, longitude, navigational measurements, chart projections, classification and reading, magnetic compass, variation, deviation, magnetic and compass courses, swinging for deviation, cruise preparation, dead reckoning, effect of wind and currents, tide and current predictions, estimating the position, lines of position, finding the position, finding course to steer to allow for current and wind, useful navigational techniques, the Canadian system of buoyage.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.
Fee — $26.00.

CELESTIAL NAVIGATION FOR YACHTSMEN — MAR 904

Course Content — The Earth-Grid system of co-ordinates, the celestial sphere, celestial position lines, time, the sextant, practical instruction on sight taking, the Nautical Almanac, position fixing by the sun, moon, planets and stars (H.O. 214 method), compass error, star identification.
Tuesday or Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.
Fee — $26.00.

METEOROLOGY COURSE — MAR 905

A course of value to the small boat operator and those interested in Marine Meteorology. The course will consist of: meteorological services available to shipping, with special emphasis on the Great Lakes, including the services provided by both the USA and Canada. Theoretical meteorology will consist of a series of lectures on: atmosphere, wind, pressure, cloud, thunder storms and hurricanes, etc. Emphasis will also be given to the reading of weather maps, interpolation of weather synopsis and the Mafor Code.
Tuesday — 7:00 to 10:00 p.m. 30 hrs. Campus CL.
Fee — $15.00. Commencing Tuesday, October 20, 1970.

SMALL BOAT BUILDING, REPAIR AND MAINTENANCE — MAR 906 X

Course Content — Introduction to small boat building, materials and tools, safe working methods, type of small boats, layout of component parts, type of construction, practical construction, finishing, surface filling, protective material.
PROPULSION — Types of sails, masts and rigging, fittings, small motors.
Tuesday or Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.
Fee — $26.00, plus appropriate material cost.

BOAT BUILDING AND YACHT DESIGN COURSE — MAR 907 X

This is a two-year course in Marine Technology comprising theory, design and practical small boat construction. It is a more advanced course to be undertaken by students who have completed the existing course in Small Boat Building, Repairs and Maintenance or by students who desire a more advanced course of study.
Course Content — an introduction to naval architecture, mathematics, calculation, stability calculation, hydrostatic curves, launching procedures, contracts and forms.
SHOP — plans and their uses, scales, lofting, parts and sections, power, controls, rudders, rigging, auxiliary equipment, launching tests, and trials.
Parts and sections will be developed and constructed by students. If possible a small, approximately 30' vessel will be constructed. Wood and Fibre Glass construction will be dealt with and Fibre Glass repair.
Steel construction will be dealt with by lecture only at present.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus CL.
Fee — $26.00, plus appropriate material cost.

ENGINES FOR YACHTSMEN — MAR 908

Prerequisite — Interest in all marine engines.
Course Content — Theory of the 2 and 4 stroke cycle engines. Construction of engine components, their functions and requirements; oil systems, cooling systems, starting motors, pumps and fuel systems.
Timing and adjustment of pump injectors. Thrust bearings and marine gear boxes, engine governors.
Care and maintenance, trouble shooting and winter lay up.
Tuesday — 7:00 to 10:00 p.m. 60 hrs .Campus CL.
Fee — $26.00.

CANADIAN POWER SQUADRON COURSES

In addition to the foregoing the College provides accommodation for courses offered by the Toronto Power Squadron. Registration for these courses will take place on Monday, September 14th, from 7.30 p.m. to 9.30 p.m. at 37 Dartnell Avenue. Classes begin during the week of September 28th, with the exception of courses marked *, which begin one week later. All courses will end on the date set by the examination board, which will be announced. Further information may be obtained by telephoning the Toronto Power Squadron at: RU. 1-0005.
The courses offered are listed below. All classes Campus CL.
PILOTING — $30.00. Available both Monday and Wednesday. Terminology — Equipment — Government regulations — Rules of the road at sea — Safety at sea — Mariner's compass — Aids of navigation — Charts and piloting — Manners and customs on board. Successful completion of this course qualifies a person for membership in Canadian Power Squadrons and admission to other courses. Membership is open to men, women and juniors (Under 18).

THE FOLLOWING ADVANCED COURSES ARE OPEN TO MEMBERS OF CANADIAN POWER SQUADRON

* SEAMANSHIP — $10.00. Handling small craft, both power and sail, marlinspike, elementary weather, adverse conditions, gear and equipment, problems.
Tuesday.
* ADVANCED PILOTING — $10.00. Advanced chartwork and methods of determining position. Leeway allowances, tides and currents. Elementary radio aids to navigation.
Wednesday
* ENGINE MAINTENANCE — $10.00. Operating principles of marine engines, inboard and outboard. Electrical, fuel, lubrication and cooling systems. This course is designed to make boatmen more self-reliant, not to train engine mechanics.
Monday
* MARINE ELECTRONICS — $10.00. Marine radio maintenance and communication procedures. Radio direction finding, radar, Loran and Consolan. Electronic marine aids and equipment. The course includes the requirements of the D.O.T. examination for the Restricted Radio-telephone Operator's license.
Monday
* SAILING — $13.50. Terminology, rigging, points of sail, true and apparent wind, theory of sail action, bending, setting and care of sails. Some aspects of racing are also covered.
Tuesday
* WEATHER — $10.00. The atmosphere, air masses, wind systems, causes of weather, observing and interpreting weather signs, elementary forecasting. The emphasis of this course is on short-range forecasting for small boats at sea.
Tuesday
* JUNIOR NAVIGATOR — $25.00. Open only to successful candidates in both Seamanship and Advanced Piloting. Introduction to deep-sea navigation using celestial techniques. Care and use of the sextant. Reduction of star sights to determine position. Elementary time, the sailings and pilot charts.
Tuesday
* NAVIGATOR — $25.00. Open only to successful candidates in Junior Navigator. Coordinate systems, navigational astronomy, civil, solar and sidereal time, star identification, refined methods of sight reduction.
Monday
Note: All course fees are subject to confirmation.

SPECIAL TECHNIQUES

MEN'S HAIRSTYLING — BARB 900

Prerequisite — Applicants must be licensed barbers currently employed in the trade.
Course Content — practical haircutting, shampoos, discussion on styles, styling and blow waving, tinting, bleaching, processing, razor cutting, hair pieces.
Wednesday — 7:00 to 10:00 p.m. 60 hrs. Campus K.

LADIES' HAIRSTYLING (ADVANCED) — HAIR 900

Prerequisite — Ontario Certificate of Qualification and currently employed.
Course Content — review of basic techniques, advanced methods of scissor cutting, blow-waving, ironing, back-combing and back-brushing techniques, handling long hair, hair pieces and current fashion trends.
Mondays and Wednesdays — 7:00 to 10:00 p.m. 60 hrs. Campus K.

DRESSMAKING AND INDUSTRIAL SEWING, PART I — ST 900

This is a general course in which the aim is to give people a working knowledge of the skills and short cuts, employed in the sewing industry. Class work is designed to develop accuracy, coordination and versatility without sacrificing speed.
Course Content — basic techniques such as stitching exercises, darts, facings, cuffs, etc. The use of different attachments, the proper method of clipping and trimming, the value of finishing a garment by hand and applying skills in making aprons.
Tuesday — 7:00 to 10:00 p.m. 30 hrs. Campus C. Fee — $15.00.

DRESSMAKING AND INDUSTRIAL SEWING, PART II — ST 901

Prerequisite — ST 900 or equivalet sewing experience. This is a specialized course that is designed to perfect sewing skills. It is chiefly concerned with the application of general sewing knowledge to the construction of complete garments.
Course Content — laying-out patterns, basting, fitting a garment, zippers, waistbands, setting in sleeves, attaching cuffs and collars, ironing and finishing garments by hand.
Thursday — 7:00 to 10:00 p.m. 30 hrs. Campus C. Fee — $15.00.

GARMENT PATTERN DRAFTING AND DESIGN (BEGINNERS) — ST 902

Prerequisite — This course is for the student who is knowledgeable in dressmaking.
Course Content — The course includes a systematic method of pattern cutting by drafting directly on paper or on the flat as it is often called.
1. Drafting the basic foundation pattern for your figure type and manufacturing size.
2. Emphasis on fitting and alteration of patterns.
3. Understanding the basic principles of the craft, what makes the collar roll a certain way or fit a certain way, what makes a flare, why gathers fall in one direction or another, how darts are used for fit and style effects, why a sleeve is comfortable. You will be able to obtain these effects by designing from a sketch or your original ideas.

Tuesday — 7:00 to 10:00 p.m. 60 hrs. Campus C. Fee — $26.00.

GARMENT PATTERN DRAFTING AND DESIGN (ADVANCED) — ST 903

Prerequisites — Successful completion of ST 902, which includes drafting the basic foundation blocks to personal size and manufacturing size.
Course Content — The course will consist of designing a garment from a sketch or an original idea. It will include creative styling such as coats, suits, sportswear, etc., and also dresswear.
Thursday — 7:00 to 10:00 p.m. 60 hrs. Campus C. Fee — $26.00.

FURNITURE REPAIR AND REFINISHING — ST 904 X

This course is designed to give the fundamentals of furniture refinishing and minor repairs.
Course Content — stripping, preparing a wood surface, minor repairs, staining, filling, sealing and applying various finishes.
Monday and Wednesday — 7:00 to 10:00 p.m. 90 hrs. Campus C.
Fee — $50.00.

FUR COURSE I — ST 905

Prerequisite — For fur salespeople, fur advertising, staff, fur customers.
Course Content — The aim is to learn to identify furs in all forms, to learn facts about furs vs. phantasies and fables,to learn proper care of furs, approximate expected life of garments, causes of wear. Content will include: nature of fur, wearability, methods of manufacture of nine groups. Rodent family: beaver, nutria, muskrat, hamster, viscasha, squirrel, rabbits in all forms. Weasel family: mink, mink pieces, marten, fisher, fitch, pahmi, skunk, otter. Hoofed family: lambs, including mouton, Persian, borega, guanaco, calf, pony, kidskin, etc., pieces.

Styling and fashion in fun furs — Seal family: seal hunts (true story), mole, monkey, marsupials (kangaroo). Feline and canine family: ocelot cat, lynx, civet, fox, wolf (shedding and loose hair). Plantigrades: racoon, bassarisk, fur trims, hoods and novelties, muffs. Care of furs: combinations, damage and repair, cleaning and insurance. All furs will be displayed in skins and garments: recognition tests. Permanent record of course with lists of wearability, families, care of furs, fur labelling.
Wednesday — 7:00 to 9:30 p.m. 20 hrs. Campus C.
Fee — $30.00. Instructor: S. S. Schipper, B.A.
Commencing August 19, 1970

GENERAL INFORMATION

Advanced technical evening courses will be offered in the subjects listed under the table of contents.
Theory courses will be 60 hours in length consisting of twenty (20) three (3) hour lectures. Technical science courses will be 60 hours in length consisting of forty (40) hour lectures and twenty (20) hour laboratory sessions.
Counselling and personal interviews will be held during the evenings of registration.
The Colleges of Applied Arts and Technoogy within the Greater Metropolitan Toronto group will be offering the following series of block programs to assist their students to better schedule their extension courses in the advanced technician field. The blocks follow:

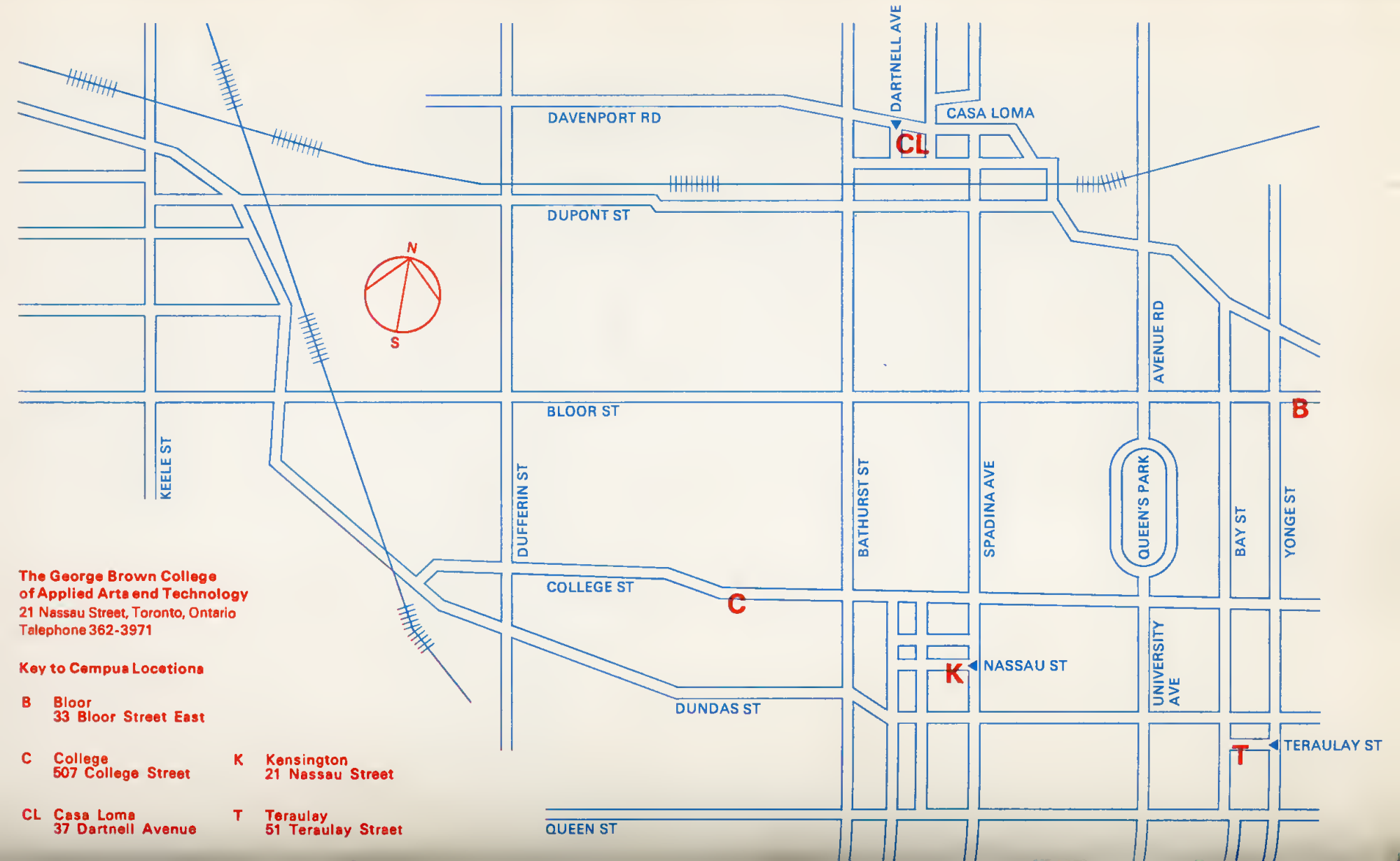
Civil
Mathematics I — MATH 100
Mathematics II — 200 I
Technical Drawing — DR 100
Physics I — PHYS 100
Surveying — SURV 101
Mechanics I — MECH 100
Mechanics of Materials I — MECH 110

Electrical
Mathematics I — MATH 100
Mathematics II — MATH 200
Electrical Fundamentals — EL 905
Electronic Fundamentals — ELTC 904
Physics I — PHYS 100
Power Systems — EL 908
Electrical Drafting (Basic) — EL 903

Electronics
Mathematics I — MATH 100
Mathematics II — MATH 200 I
Electrical Fundamentals — EL 905
Electronic Fundamentals — ELTC 904
A.C. Circuits — EL 906
Electronic Circuits — ELTC 905
Physics I — PHYS 100

Mechanical
Mathematics I — MATH 100
Mathematics II — MATH 200 I
Mechanics I — MECH 100
Mechanics of Materials I — MECH 110
Electrical Fundamentals — EL 905
Physics I — PHYS 100
Technical Drawing I — DR 100

The above courses are for persons who hold a secondary school Graduation Diploma or the equivalent and who wish to begin or continue their education in the various technologies. A minimum of 50% for each subject, with an overall average of 60% is required for the certificate issued by O.A.C.E.T.T.
Optional subjects may be selected but confirmation of the school of your choice is necessary. By adding English I and one more technical subject the student can qualify for the A.T.E.C. grade I certificate.
Complete information on the Advanced Technical Evening Class programs is available from the Ontario Department of Education, Applied Arts and Technology Branch, 55 Eglinton Avenue East, Toronto 12.



The George Brown College of Applied Arts and Technology
21 Nassau Street, Toronto, Ontario
Telephone 362-3971

Key to Campus Locations

B Bloor
33 Bloor Street East

C College
507 College Street

K Kensington
21 Nassau Street

CL Casa Loma
37 Dartnell Avenue

T Teraulay
51 Teraulay Street